



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

  
**B** 3 9015 00236 968 7  
University of Michigan - BUHR



GENERAL LIBRARY

OF

University of Michigan

Presented by

Dr. Ford's Library

1900

L. 13. 5

H169

A16

print at 5







**HALF-YEARLY ABSTRACT**  
**OF THE**  
**MEDICAL SCIENCES.**  
**JANUARY—JUNE,**  
**1851.**





**HALF-YEARLY ABSTRACT**  
**OF THE**  
**MEDICAL SCIENCES.**  
**JANUARY—JUNE,**  
**1851.**

## CHANGE OF TERMS.

- Under the NEW POSTAGE LAW, this work cannot be sent by mail unless the postage on it is PREPAID. The terms, therefore, to MAIL subscribers will hereafter be \$2 per annum, or \$1 per number; it will, however, be sold from the counters of the various book and periodical sellers throughout the United States at \$1 50 per annum, or 75 cents per number, as heretofore. Mail subscribers who have remitted but \$1 50 for the present volume, must remit the additional 50 cents in order to receive No. XIV., and those persons who have paid \$1 50 for XII. and XIII., leaving 75 cents only for the present number, should remit 25 cents, being the amount of postage paid on it by the subscribers in Philadelphia. Either of the above sums can be remitted in Post Office stamps.

LINDSAY & BLAKISTON, *Publishers.*

## NOTICE TO CORRESPONDENTS.

---

*The Editor requests that all communications be forwarded (free) either to MR. CHURCHILL, Princes street, Soho, London, or to himself, addressed DR. RANKING, Norwich.*

*The Editor is compelled to remind his American correspondents that no parcels are taken in unless the entire charge be paid upon them.*

THE  
HALF-YEARLY ABSTRACT  
OF THE  
MEDICAL SCIENCES:  
BEING

A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL  
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED  
IN THE PRECEDING SIX MONTHS.

TOGETHER WITH

A SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND THE  
COLLATERAL SCIENCES DURING THE SAME PERIOD.

EDITED BY

W. H. RANKING, M.D., CANTAB.,  
PHYSICIAN TO THE NORFOLK AND NORWICH HOSPITAL.

*Apparata nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.—CICERO.*

NO. XIII.

JANUARY—JUNE, 1851.

PHILADELPHIA:  
LINDSAY AND BLAKISTON.  
1851.

# LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE "HALF-YEARLY ABSTRACT."

## BRITISH.

*British and Foreign Medico-Chirurgical Review.*  
*Medico-Chirurgical Transactions.*  
*Edinburgh Medical and Surgical Journal.*  
*London and Edinburgh Monthly Journal.*  
*London Journal of Medicine.*  
*Journal of Psychological Medicine.*  
*Dublin Quarterly Journal of the Medical Sciences.*  
*Lancet.*  
*Medical Gazette.*  
*Provincial Medical Journal.*  
*Medical Times.*  
*Dublin Medical Press.*  
*Bell's Pharmaceutical Journal.*  
*Guy's Hospital Reports.*  
*Chemical Gazette.*

## AMERICAN.

*American Journal of the Medical Sciences.*  
*Philadelphia Medical Examiner.*  
*New York Journal of Medicine.*  
*Boston Medical and Surgical Journal.*  
*Southern Medical and Surgical Journal.*  
*British American Journal of the Medical Sciences.*  
*American Journal of Insanity.*

## FRENCH.

*Annales de Chirurgie.*  
*" d'Hygiène.*  
*" de Chimie et de Pharmacie.*  
*" des Maladies de la Peau.*  
*" Thérapeutique.*  
*Archives Générales de Médecine.*  
*Bulletin des Académies.*  
*Encyclographie Médicale.*  
*" des Sciences Médicales.*  
*Journal des Connaissances Médico-Chirurgicales.*  
*Gazette des Hôpitaux.*  
*" Médicale.*  
*Journal de Chirurgie de M. Malgaigne.*  
*Revue Médicale.*  
*Journal de Chimie et de Pharmacie.*

## GERMAN.

*Schmidt's Jahrbücher.*  
*Zeitschrift für die Gesamte Medicin.*  
*Müller's Archiv für Anatomie, &c.*  
*Liebig's Annalen der Chemie und Pharmacie.*  
*Canstatt's Jahresbericht.*  
*Buchner's Repertorium.*  
*Haller's Archives für Physiolog. und Patholog. Chemie.*  
*Casper's Wochenschrift.*  
*Poggendorf's Annalen.*

N. B.—Every periodical here specified is consulted *directly* by the Editor and his Coadjutors.

## CONTENTS OF NO. XIII.

### PART I.—PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

#### SECT. I.—*General Pathology.*

| ART.  | PAGE |
|---|------|
| 1. On a New Epidemic Exanthem. By Dr. Laycock . . . . .   | 17   |
| 2. On a Peculiar Type of Fever Characterized by Excitement of the Cerebro-Spinal Centres. By Dr. M'Dowell . . . . . | 20   |
| 3. Scarlatina; Sloughing of the Internal Jugular Vein, Recovery. By Dr. Teperet-Muret . . . . .                     | 22   |
| 4. Treatment of Scarlatinal Otorrhœa. By M. Trousseau . . . . .   | 23   |
| 5. On Progressive Muscular Atrophy. By M. Aran . . . . .  | 24   |
| 6. On Spontaneous Formation of Poison in the Human System. By Dr. Graves . . . . .                                  | 25   |

#### SECT. II.—*Diseases of the Nervous System.*

|   |     |
|---|-----|
| 7. On the Premonitory Signs of Severe Cerebral Disease, and their Importance. By Dr. Devay . . . . .              | 26  |
| 8. On the Diagnostic Value of Pains in the Head. By David Nelson, M. D. . . . .                                   | 29  |
| 9. Extracts from a Clinical Lecture on Diseases of the Nervous System. By Dr. Hughes Bennet . . . . .             | 30  |
| 10. On a Functional Affection of the Spine which may be mistaken for Organic Disease. By Dr. H. Kennedy . . . . . | 37  |
| 11. On Epilepsy and Epileptoid Affections. By Dr. Marshall Hall . . . . .   | 38  |
| 12. Diagnosis of Catalepsy. By Dr. E. Miller . . . . .  | 39  |
| 13. On Coup de Soleil. By Drs. Pepper and Condie . . . . .  | 41  |
| 14. On the Pathology of Cerebral and Spinal Softenings, &c. By Dr. Hughes Bennet . . . . .                        | ib. |

#### SECT. III.—*Diseases of the Respiratory System.*

|  |     |
|--|-----|
| 15. Differential Diagnosis of Asthma and other Respiratory Affections. By Dr. Bergson . . . . .                      | 45  |
| 16. On the Treatment of a Particular Form of Aphonia, by Inhalation of Stimulating Vapour. By Dr. Pancoast . . . . . | ib. |
| 17. On Gangrene of the Lung. By F. G. Probart, M. D. . . . .   | 47  |
| 18. Clinical Remarks on the Practice of Auscultation. By Dr. Hughes Bennet . . . . .                                 | 48  |

#### SECT. IV.—*Diseases of the Circulatory System.*

|  |     |
|--|-----|
| 19. Indications afforded by the Pulse in Cardiac Diseases. By R. B. Todd, M. D. F. R. S. . . . .               | 53  |
| 20. On Intermitting Pulse. By R. B. Todd, M. D. F. R. S. . . . .   | 56  |
| 21. On the Differential Diagnosis of Functional and Organic Diseases of the Heart in Anæmic Subjects . . . . . | 60  |
| 22. Extracts from the Gulstonian Lectures on the Diseases of the Heart. By E. L. Ormerod, M. D. . . . .        | 62  |
| 1. Symptomatic Value of the Metallic Click . . . . .   | ib. |
| 2. Physiognomy of Cardiac Diseases . . . . .   | ib. |
| 23. On the Treatment of Chronic Diseases of the Heart. By Charles Ritchie, M. D. . . . .                       | 63  |

SECT. V.—*Diseases of the Chylopoietic System.*

| ART.   | PAGE |
|--|------|
| 24. On Diphtheritis. By S. D. Brown, Esq.  | 68   |
| 25. On Disease of the Pancreas. By Dr. Fearnside   | 69   |
| 26. On the Physical Examination of the Abdomen. By C. J. B. Williams, M. D.                          | 71   |
| 27. Palpable Signs of Solid Indurations and Enlargements in the Abdomen. By C. J. B. Williams, M. D. | 77   |
| 28. On the Treatment of Obstruction of the Bowels. By Edward Wells, M. D.                            | 78   |
| 29. Case of Abscess of the Spleen evacuated through the Lungs. By Robert Law, M. D.                  | 80   |

SECT. VI.—*Diseases of the Genito-Urinary System.*

|  |    |
|--|----|
| 30. Detection of Seminal Fluid in the Urine in Cases of Masturbation. By Thomas Inman, M. D. | 82 |
| 31. Diagnosis of Fatty Degeneration of the Kidney. By Dr. G. Johnson                         | 83 |

SECT. VII.—*Diseases of the Skin and Cellular Tissues.*

|  |     |
|--|-----|
| 32. Remarks on the Fungus of Favus. By S. A. Griffith, M. D. | 84  |
| 33. Treatment of Pruritus Ani and Vulvæ                      | 85  |
| 34. Abortive Treatment of Small-pox by Collodion             | 86  |
| 35. Muriate of Lime in Skin Diseases                         | ib. |

SECT. VIII.—*Materia Medica and Therapeutics.*

|   |    |
|---|----|
| 36. On Extractum Carnis. By Dr. Beneke                            | 86 |
| 37. Cod-liver Oil in Gaol Cachexia. By Caleb Rose, Esq., F.R.C.S. | 87 |
| 38. Value of Turpentine in Purpura. By Dr. Budd                   | 88 |
| 39. Beneficial Effects of Creasote in Diarrhœa. By Mr. Kesteven   | 90 |
| 40. Therapeutic Action of Coffee and Caffeine                     | 91 |

## PART II.—SURGERY.

SECT. I.—*Symptomatology and Diagnosis of Surgical Diseases.*

|  |     |
|--|-----|
| 41. On Dislocation of the Knee. By Dr. Adams                                 | 93  |
| 42. Diagnosis of Morbid Growths from the Upper Jaw. By Prescott Hewett, Esq. | 94  |
| 43. On some Errors in Diagnosis. By M. Diday                                 | 95  |
| 44. Symptoms and Diagnosis of Enlarged Bursæ. By W. Coulson, Esq.            | 96  |
| 45. On Intracapsular Fracture of the Neck of the Femur. By P. Bevan, M. D.   | 98  |
| 46. On the Diagnosis of Fracture of the Fibula                               | 99  |
| 47. On Rupture of the Ligamentum Patellæ                                     | ib. |
| 48. General Remarks on the Diagnosis of Tumours of the Neck. By Dr. Redfern  | 100 |
| 49. Fracture of the Outer Condyle of the Humerus, simulating Dislocation     | 101 |
| 50. On Strumous Urethritis. By Dr. Wilmot                                    | 102 |
| 51. On Stricture of the Rectum. By J. S. Hughes, M. D.                       | 103 |

SECT. II.—*Nature and Causes of Surgical Diseases.*

|   |     |
|---|-----|
| 52. Injury to the Fifth and Sixth Cervical Vertebrae.—Paraplegia and Anæsthesia.—Recovery   | 105 |
| 53. On some of the Causes of Ununited Fracture. By John Adams, Esq.                         | 108 |
| 54. On the Effects of Concu-sion of the Spine. By John Grantham, Esq.                       | 109 |
| 55. Contused and Lacerated Wound of the Rectum, from a Fall. By E. W. Tuson, Esq.           | 110 |
| 56. Case of Obstruction of the Bowels, caused by swallowing a Leadén Bullet. By Dr. Cumming | 112 |

SECT. III.—*Nature and Treatment of Surgical Diseases.*

| ART.   | PAGE |
|--|------|
| 57. On Gonorrhœa. By Mr. Chippendale . . . . .   | 113  |
| 58. Remarks on Hernia—Operation without Opening the Sac . . . . .  | 114  |
| 59. Treatment of Subcutaneous Bursæ . . . . .  | 117  |
| 60. On Congenital Contraction of the Fingers, with a new Operation for their Relief, &c. By J. T. Heytor, Esq. . . . . | 119  |
| 61. Inguinal Hernia—treated by Injection. By Dr. Bigelow . . . . .   | 120  |
| 62. Case of Spontaneous Cure of Popliteal Aneurism. By James Syme, Esq. . . . .  | 121  |
| 63. Penetrating Wound of the Knee-joint—Case . . . . .   | 122  |
| 64. Treatment of Bronchocele by Compression. By Dr. Dwight . . . . .   | 123  |
| 65. Treatment of Mammary Abscess by Collodion. By Dr. Evans (U.S.) . . . . .   | 124  |
| 66. Treatment of Stricture of the Rectum. By J. S. Hughes, M. D. . . . .   | 125  |
| 67. Treatment of Burns and Scalds with White Paint. By Dr. Gross . . . . .   | 126  |
| 68. Observations on Collyria. By Arthur Jacob, M. D. . . . .   | 127  |
| 69. On the Treatment of Ophthalmia in General. By Professor Langenbeck . . . . .                                       | 130  |
| 70. Treatment of Purulent Ophthalmia in Infants. By Arthur Jacob, M. D. . . . .  | 132  |
| 71. Dieffenbach's Operations for Prolapsus Ani . . . . .   | 134  |
| 72. Lanceolate Director for the Treatment of Ganglion. By John Maund, Esq. . . . .                                     | 136  |
| 73. On an Easy Method of Reducing a Dislocated Femur. By Dr. Mayr . . . . .  | 137  |

SECT. IV.—*Rare Surgical Cases.*

|  |     |
|--|-----|
| 74. Dislocation of the Clavicle Downwards, beneath the Acromion Process. By R. G. H. Butcher, Esq. . . . . | 138 |
| 75. Fistula in Ano, in a Child 3½ years old. By Mr. Foster . . . . .                                       | 139 |
| 76. Peculiar Injury of the Ankle-joint. By Dr. Power . . . . .   | ib. |
| 77. Case of Volvulus cured by Gastrotomy. By Dr. Reali . . . . .   | 140 |
| 78. Spontaneous Collapse of the Antrum. By White Cooper, Esq., F.R.C.S. . . . .                            | 141 |

## PART III.—MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—*Midwifery and Diseases of Women.*

|  |     |
|--|-----|
| 79. On the Diagnosis of Uterine Disease. By Professor Simpson . . . . .                                    | 142 |
| 80. Intra-Uterine Polypus successfully Removed. By W. F. Montgomery, M. D. . . . .                         | 156 |
| 81. Absence of the Vagina—Imperforate Uterus—Operation—Impregnation—Delivery. By Mr. Debrou . . . . .      | 158 |
| 82. Remarks on Atresia Vaginæ. By G. M. Humphry, Esq. . . . .  | 159 |
| 83. Uterine Hæmorrhage Thirteen Days after Delivery. By Dr. Fergusson . . . . .                            | 162 |
| 84. Case of sudden Death after Delivery. By Mr. Berry . . . . .  | 163 |
| 85. Styptic Powers of Matico in Uterine Hæmorrhage . . . . .   | 164 |
| 86. Case of Pelvic Tumour Obstructing Delivery—Cæsarian Operation proposed. By R. Shekelton, M. D. . . . . | ib. |
| 87. On the Employment of Tartar Emetic to Relieve Rigidity of the Os Uteri. By Dr. A. Hall . . . . .       | 166 |
| 88. Rare Case of Complicated Parturition. By James Gray, M. D. . . . .                                     | ib. |
| 89. Hints on the Treatment of Lacerated Perineum. By Dr. Horner . . . . .                                  | ib. |
| 90. Successful Case of Transfusion. By G. B. Masfen, Esq. . . . .  | 167 |

SECT. II.—*Diseases of Children.*

|   |     |
|---|-----|
| 91. On the Treatment of Acute Hydrocephalus. By Dr. H. Kennedy . . . . .  | 168 |
| 92. On Laryngismus Stridulus. By Dr. Schæpf Merei . . . . .               | 172 |
| 93. On the General Convulsions of Children. By Dr. Schæpf Merei . . . . . | 177 |



## REPORTS.

| ART.   | PAGE |
|--|------|
| 1. On the Progress of Practical Medicine, Pathology, and Therapeutics. By the Editor       | 187  |
| 2. On the Progress of Surgery. By T. W. Crosse, Esq., M.R.C.S., &c.                        | 221  |
| 3. On the Progress of Midwifery and Diseases of Women and Children. By the Editor          | 245  |
| 4. On the Recent Progress of Toxicology and Forensic Medicine. By Lockhart Robertson, M.D. | 279  |

---

|                    |     |
|--------------------|-----|
| Index to No. XIII. | 319 |
|--------------------|-----|

# ABSTRACT OF THE MEDICAL SCIENCES,

*dec. &c.*

---

## PART I.

### PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

---

#### SECT. I.—GENERAL PATHOLOGY.

##### ART. 1.—*On a New Epidemic Exanthem.* By DR. LAYCOCK.

(*Medical Times*, March 8, 1851.)

[THE disease which the author considers to be new, has been observed by him during the last few months, and, indeed, has been very general throughout the country. We have seen several cases, but it did not occur to us that we had to deal with otherwise than ordinary ecthyma, complicated with the larger cellular inflammations, to which the term furuncle is applied. Dr. Laycock describes the disease as follows:]

The disease is mainly characterized by a succession of boils on various parts of the body, of various sizes, from a bean to a walnut. First, there is a small hard pimple, with, perhaps, a vesicle or circlet of vesicles on the top. This itches; the top is scratched off; when it is found that there is a small tumour in or below the derma, which becomes larger, inflamed, very painful, and at last suppurates, with an erysipelatous blush about it, and in bad cases with phlyctenæ. A number of these occur in succession on various parts of the body, but principally on the fore-arm, leg, and nates. Occasionally there is a vesicle only, which quickly puts on the appearance of ecthyma; and in one case at the Dispensary (in a child), there was just one large livid-looking phlyctena, as large as a crown-piece, a solitary monster, of a startling aspect, so like gangrene it looked. Sometimes there is a solitary boil, large, angry-looking, and mischievous as a carbuncle. An aged lady, who came under my notice, had one of these on the mons veneris; and sometimes even the minor specimens are not to be distinguished from carbuncles. Very often after they have sloughed and healed they leave an indurated condition of the skin and subcutaneous cellular tissue, of a very unpleasant kind.

The eruption, whatever form it may assume, has a definite period of duration, and continues for from two to six weeks. The furuncular form is not always more chronic than the ecthymatous, but for the most part it is so; the exceptions being those cases in which the patient is cachectic. It is not, however, as I have previously remarked, dependent at all upon a cachectic condition, for I have seen it in robust men and in very healthy children. Nevertheless, the cachectic suffer more from the disease, and perhaps they suffer also in greater numbers; but of this I have no certain information. In some instances you may

clearly trace the localization of the boils to some local cause; for example, a crop will break out round a blister, or round another boil, if it be poulticed much, or round a burn. I have a case in which they have occurred on the neck, thorax, and upper arm of a young woman who has irritated her throat by the inunction of the iodide of potassium ointment; and another, in which a chronic psoriasis seems to have been the exciting cause. I suspect that any local irritation of the skin is sufficient to induce the disease in an individual within the sphere of the epidemic.

[This description is illustrated by the detail of several cases; after which the author states his conviction that the eruptive disease may appear under several forms, as under:]

1. There may be a solitary boil; such was the case of an old labourer who came from the country to the Dispensary, a week or two ago, with a large boil on the point of the elbow, phlyctenoid, and presenting inflammation of an erysipelatous character, extending down the arm to the wrist, and upwards towards the shoulder.
2. A solitary phlyctæna, or several.
3. Several boils, varying in size and character up to carbuncles, without any other cutaneous disease.
4. Boils, with ecthyma, eczema, or impetigo; but much more frequently with ecthyma.
5. The boils differ, in leaving or not leaving behind them an induration of the skin and subcutaneous tissue. How long the disease has been epidemic is uncertain. I certainly observed it more than eighteen months ago. Its progress is slow, for the inmates of a house do not suffer from it in rapid succession, so that only one or two in a family are affected at one time, except where the family is large. Out of sixty or seventy inmates of the private asylum in which I first saw it, there were not more than 10 per cent. affected at once; and in some the disease was so trifling, that it would not have been noticed under ordinary circumstances—perhaps one or two small boils and no more.

[The origin and pathology of the disease is next discussed. After alluding to the description of an analogous complaint, mentioned by Alibert, as prevailing among the French cavalry, the author enters upon the question whether in that case it could have originated in the horses, and whether the epidemic in question may not be of brute origin. He says:]

But another question arises, namely, Is it probable that the present furuncular epidemic is of brute origin? To answer this, we have to consider some of the general facts of the subject. When domestic animals are numerous affected with a similar disease, it is termed an *epizootic*. There are several such. The smallpox of sheep is one of these; the pleuro-pneumonia amongst cattle is another. On the Continent these epizootics are of great importance, and have occasionally become destructive *epidemics*, by being communicated to man; they have extended from *zoon*, the brute, to *demos*, the people. Of this kind is the carbuncular disease, termed by the Germans *brandbeule*—Anglice, *brand-boil*, and others. . . . I have looked into some of the German books, and find that there is a febrile disease, known under numerous designations, which is highly contagious, usually characterized by a furuncular or carbuncular inflammation of the skin and subcutaneous cellular tissue of an erysipelatous and gangrenous character, and which attacks man and all domestic animals, except the dog, even birds and fishes—as the tench—being seized with it. It may be considered as a malignant erysipelatous fever, originating with horses and cattle, allied to puerperal fever, hospital gangrene, &c., and dependent upon the presence of a septic poison in the blood. Like the various modifications of the erysipelatous poison, it appears differently under different circumstances; as, for instance, when it appears in cattle, as the epizootic *milbrand*, or gangrenous splenitis; or if communicated to sheep by inoculation, as erysipelatous inflammation simply; or when it occurs in the phlyctenoid form alone, as the *vesicula gangrænae*. Heine distinguishes three modifications in man of the carbuncular form—the anthrax fever, or carbuncle of gangrenous splenitis;—namely, 1. The mild form of a pustule, with a circular ecthymatous or phlyctenoid eruption of small vesicles, the pustule drying up, and the inflammation not extending below the dermis. In this form there is little or no fever. 2. The gangrenous form (*pustula gangrænae*), in which the pustule passes into inflam-

mation in and below the dermis, constituting the carbuncle. And 3. The sphacelous form, which is the genuine anthrax, and in which the pustule becomes livid or coal-black and dry, with large gangrenous phlyctenæ. In the two latter the fever is of the malignant type. There are other modifications, as the glossanthrax, in which a solitary carbuncle appears under the tongue. In some cases there is no eruption whatever; but the animal or the human being is struck down at once, and dies in a quarter of an hour. The disease appears also with variations in the phenomena, according to the kind of animal attacked; but these I need not trouble you with.

Looking generally at the phenomena which our furuncular epidemic presents, I think we can see in it a family likeness to this epizootic group; in fact, if the malignant carbuncle were to appear in a mild and chronic form—if we could suppose it to be modified (as the variolous poison is modified to produce vaccinia), so as to be disarmed of its malignant and acute character—we should say, *a priori*, that it would assume just the characters of this furuncular epidemic. Within the last few years we have become more familiar with epizootics than in former years; and this is due, I believe, to the importation of the diseases with foreign cattle. What concerns us most as practitioners is, what pathological relations have these epizootic contagious fevers to those which attack mankind? Important as such a question is, I know of nothing like a sufficient answer. We are utterly in the dark about them; and yet, for anything we know, our most widely spread and most destructive epidemics may have their origin with brutes. Startling as this assertion may appear, I believe it is well founded. I have long suspected that epidemic catarrh has its origin in the pleuro-pneumonia of cattle. I have almost satisfied myself that puerperal fever will originate in the same quarter. Two or three years ago, I attended a modest unmarried girl of 20, in consultation with a medical friend, whose case was just like puerperal fever, except that she was not parturient, only menstruating at the time of attack. She died in about sixty hours, and the case was hopeless from the first. My friend had two parturient females under his care at the same time, both of whom I saw also in consultation with him—for a day or two after the girl died *they* were attacked with puerperal fever; both these were most acute cases, dying in a few hours. We made inquiries respecting the first case, suspecting contagion, and found that she had been in close attendance upon a cow that had died of milk fever, in a shed almost within the house. This fact put the accoucheur on his guard, being satisfied that his first case in the girl was true puerperal fever, and probably derived from the cow. But a more interesting circumstance is this, that a poison communicated from man to brute, or *vice versa*, may not produce the same phenomena. Thus, although there are points of analogy between the distemper in dogs and the variola and vaccinia in man, yet there is no nosological similarity, and yet it is a practice in this neighbourhood to protect valuable puppies from the "distemper" by vaccinating them,—that is to say, they are protected. Now, supposing that the poison causing the fever termed distemper was communicated to a child susceptible of its action from not having previously had an analogous fever, what form of fever would it excite? I am not aware that an inquiry has been made, or even a suspicion entertained, regarding the probability of pathological phenomena so resulting, and yet we might possibly sometimes explain in this way the supposed spontaneous origin of certain infantile fevers. With regard to the erysipelatous group, to which this furuncular affection seems to belong, I am not aware that there is one of the group so chronic in man as this is. It is the characteristic of them all to be acute, and of many to be frightfully acute,—as in puerperal fever, malignant scarlatina, malignant pustule, human glanders, and others. It is, however, worthy of notice, that the latter horrible disease is more chronic in the horse in the form of farcy than this furuncular disease is in man; so that the mere duration is not an absolute objection against its admission into the erysipelatous group, while its epidemic prevalence and its phlyctenoid and ecchymatous modifications take it out of the class of ordinary boils. It is not by any means improbable, indeed, that it may assume, in some districts, the ordinary form of erysipelas, or even may not be accompanied by any cutaneous inflammation whatever; just as we have variola sine variolis, and scarlatina sine eruptione, or

cholera asphyxia sine cholera. In this class of cases the disease might be expected to assume a rheumatic form.

I know there are practitioners who totally object to this doctrine that dissimilar phenomena may arise from the same febrile poison, more particularly on the ground that it strikes at the root of all our established general facts and principles. But in my general lectures I think I amply explained to you, that many of these so-called facts and principles are erroneous and untrustworthy; that, in fact, they prevent us comprehending more perfectly the true pathology and pathological relations of febrile diseases, and that unless the doctrine I have referred to be an admitted principle in our inquiries, we shall really make very little progress, for we have to consider the whole group as blood diseases, of which the local inflammation, &c., are only varying symptoms.

I know that it is almost a painful thing thus to have your doubts raised on points regarding which all seemed to be agreed. But the fact is, that the agreement is only a seeming one, and is only obtained by ignoring a great number of residuary facts, and quietly allowing a great number of assumptions; such an imperfect settlement of principles can only stand in the way of progress, and the sooner it is cleared away the better.

From a consideration of the history of this epidemic, and of the analogous facts which have been recorded, I am of opinion that it is essentially a blood disease, caused by some specific poison. What that poison may be, and what its origin, are altogether uncertain; it may be from the atmosphere, or from our food, as American flour, for example; or from the flesh of tainted cattle; or may be generated within the body by atmospheric peculiarities; or it may be a contagious *matéria*, originating in the first instance with brutes, and then transmitted from one individual to another. If it be the latter, as seems most probable, then I think it is *strictly* contagious, like the glanders or syphilis, and not infectious also, or, in other words, not contagious through the medium of the atmosphere.

In treating this furuncular disease, you have little more to do, in ordinary cases, than to let it run its course, which is completed in three or four weeks. An occasional purgative and warm bath will be useful in allaying inflammatory action, and perhaps diminishing the number of boils. Two grains of calomel with rhubarb, colocynth, or scammony, twice a week, will be useful; in the more severe cases, the mineral acids and vegetable bitters must be added, and a good diet; the liquor of amorphous sulphate of quinine in full doses with dilute nitric acid, has been found useful. In all cases, however, purgatives and the warm bath are beneficial. I do not think you do much good by direct applications to the boils,—as cataplasms, fomentations, irritating plasters, &c. So soon as suppuration is established, a free incision should be made into the boil, and then the water-dressing applied: care should be taken that the pus do not flow on the adjoining skin, and (as in erysipelas) that the sponges, &c., be not used by other patients or persons. The anthrax fever on the Continent is said to be disseminated by flies and other insects carrying serum and pus from the phlyctenæ and carbuncles to the skins of sound persons and cattle; for the poison will enter through the unbroken skin. This *may* be the case also with the pus and serum of this furuncular disease. I do not know that it is; and therefore good may be done by taking the proper precaution—certainly no harm.

ART. 2.—On a peculiar type of Fever characterized by functional excitement of the Cerebro-spinal Nervous Centres. By Dr. M'DOWELL.

(Dublin Medical Press, Feb. 19, 1851.)

This fever is especially characterized by the existence of symptoms which denote a *functional excitement of the cerebral and spinal nervous centres*, especially of the latter. In the great majority of instances it attacks the young, having been met with in a large proportion of cases between the ages of twelve and eighteen. In no instance did the disease occur after the age of twenty-six, and as far as we have observed, one sex is not more predisposed to its influences than the other.

In the *mode of invasion* of this disease, there is little variety to be observed. It is invariably ushered in by the usual symptoms of fever of varying intensity, but which is generally accompanied by more than the usual amount of gastric irri-

*tability*; sometimes the vomiting proves very distressing, and occasionally, but in a few instances only, the disease has been accompanied from the outset by marked depression and prostration of the vital powers, which amounted in one case to collapse, like that of cholera, and further resembled that disease in being attended by watery stools and vomiting of a whitish serous-like fluid.

About the third or fourth day, in the majority of instances, a peculiar group of symptoms become developed, which stamp this affection as different from any of the more ordinary forms of fever. These symptoms, which depend upon a *functional excitement or erethism* of the brain and spinal cord, may be thus enumerated:—

1. *Exalted sensibility* of the cutaneous surface generally, but most highly developed in the integuments of the head, back of the neck, abdomen and calves of the legs.

2. Severe *pains* shooting throughout different parts of the body, and most generally referred to the region of the spine, occiput, shoulders, loins, and lower limbs.

3. *Tenderness on pressure* over some portion of the spinal column. Sometimes the whole spine is intolerant of pressure, but more generally isolated points alone are thus acutely sensitive. The cervical portion of the column seems to be the one most generally thus affected.

4. *Rigidity of the muscles of the nape of the neck*, especially of the sterno-mastoid and trapezius muscles, which limits the motion of flexion of the head, and in some instances completely prevents it. Sometimes the erector muscles of the spine are similarly excited.

5. In many of these cases there is the *peculiar expression of trismus*, particularly in the upper half of the face, the forehead being thrown into transverse wrinkles, and the eyes having the characteristic peering expression of that affection.

6. This fever is very often accompanied by *headache*, which is referred to the *occipital region*; or, when more diffused, is most keenly felt in the posterior region of the head.

7. There is always present more or less of *epigastric tenderness*, sometimes the whole of the abdomen is intolerant of pressure; but this belongs, in all probability, to the augmented sensibility of the surface generally, and has its seat in the integument. This symptom by its undue prominence may give rise to the suspicion that peritonitis exists, and so mislead the practitioner.

In none of these cases were there any indications of congestion of the intestinal or bronchial mucous membranes, but very often a short hacking cough with hurried breathing has been present, resembling that with which practitioners are familiar in cases of hysteria, and which, in both instances as I believe, is to be referred to the same source—viz., to functional excitement of the spinal cord.

In addition, there are the symptoms of ordinary continued fever, a pungently hot skin, and a greatly accelerated circulation, the pulse ranging from 120 to 140 (in one case mounting up to 150) but without the secretions being much vitiated, the tongue continuing moist, the bowels acting naturally, and the urine not being sensibly altered in any of its qualities. In some cases there has been slight delirium at night, but in all of them there was observed an *irritability of disposition* and an amount of *anxiety* and of *restlessness* quite disproportional to the other symptoms, but which plainly indicated a peculiar disturbance of the sensorium.

As to the *duration* of the disease, it was observed in a large number of the cases that convalescence occurred on the eighth day. In others the disease lasted for ten days, and in a few instances only was convalescence longer postponed. In some the occurrence of perspiration marked the crisis of the disease. In one case jaundice proved critical; but in the majority no marked crisis occurred. In no instance did this fever terminate fatally; nor were there any relapses.

[The author details six cases illustrative of this form of fever, concluding his paper with the following summary:—]

1. That there is a type of fever characterized and accompanied by a functional affection of the cerebro-spinal nervous system.

2. That the predominance of "spinal irritation" distinguishes this affection

from the ordinary forms of fever in which "cerebral symptoms" are of more common occurrence.

3. That the symptoms which denote excitement of the spinal cord are the following:—Morbid exaltation of the cutaneous sensibility—pains along the course of the spinal nerves—spinal tenderness—rigidity of the muscles of the nape of the neck—the expression of trismus—neuralgic headache, and headache chiefly referred to the occipital region—gastric irritation, and sometimes irritation of the pulmonic branches of the vagus nerve.

4. That these symptoms present the strongest contrast to those of typhus, in which we generally meet with a tendency to stupor, listlessness, deafness, and other evidences of blunted sensibility.

5. That the disease hitherto has proved mild, tending to recovery on or about the eighth day; that relapses do not occur; and that typhoid symptoms never are observed.

6. That instead of constituting a distinct type of fever, these signs of spinal irritation may occur in the progress of other fevers, and without tending to an unfavourable result.

7. That this affection is liable to be confounded with hysteria, peritonitis, gastritis, or gastric fever, or with cerebro-spinal meningitis.

8. That the combined symptoms of headache and epigastric tenderness, which in other fevers are best treated by local depletion over the stomach, will in these cases be most effectually relieved by the application of leeches to the posterior region of the head; and for this reason, that in the type of fever under consideration, the gastric irritability and epigastric tenderness depend upon a functional lesion of innervation, whilst in other instances it is the brain which sympathizes with a deranged gastro-intestinal mucous membrane.

#### ART. 3.—*Scarlatina—Sloughing of the Internal Jugular Vein—Recovery.*

By Dr. DEPERET-MURET.

(*L'Union Médicale*, Aug. 1850.)

[The following instance of an occasional sequence of scarlatina is reported chiefly on account of its successful termination, almost all we think recorded having proved rapidly fatal:]

A boy, æt. 14, had been the subject of scarlatina for eight days when first seen. He was then suffering from acute inflammation of the pharynx and tonsils, which were largely tumefied. He had also bronchitis. He had a dose of tartar emetic, which caused vomiting, which was followed by the evacuation of purulent matter, with considerable relief to his breathing. A tumour was now observed in the parotid region, extending downward. It was hard, resistant, tender when touched, and immovable; it seemed to be deeply buried in the tissues. Fifteen leeches were applied round it, to be repeated the next day; and poultices of flour and linseed meal were ordered to be constantly worn.

*February 18.* The general health of the patient was satisfactory. The tumour projected more, and was soft and fluctuating. No abnormal sound was heard on auscultation. A bistoury was introduced at its summit, to the depth of about a quarter of an inch, and gave exit to some thick, creamy, inodorous pus, without any blood. It was recommended to allow the pus to escape gradually; and poultices and emollient lotions were prescribed.

*February 21.* Up to this date nothing had escaped but healthy pus. On this day, the person who dressed the part, observing a fleshy flocculent plug in the mouth of the wound, attempted to remove it by traction. A large quantity of dark blood immediately escaped; this was immediately arrested by pressure on the orifice of the abscess.

*February 22.* The whole sac was easily recognised to be full of soft semi-coagulated blood. Venous hæmorrhage had evidently taken place; but it did not proceed from the external jugular vein, which was well defined to the outside of the opening of the abscess. A compress was applied, and kept wet with cold vinegar and water; and the patient was desired to keep quiet, and to resist as much as possible all efforts to cough.

*February 23.* The swelling was much increased in size; the skin was much



inflamed and thinned. No murmur nor expansive movement could be perceived in the tumour: the beating of the carotid artery could be heard distinctly, and the pulse could be felt in the facial and temporal arteries. It was determined to extend the original opening, which Dr. Boulland did to the extent of about three centimètres (1·17 inch). A quantity of half-coagulated dark blood immediately escaped. Without loss of time Dr. Boulland plugged the aperture with his finger. He then cut, with scissors, the external wall of the tumour, from below upwards. The blood immediately escaped in great quantity; the patient was nearly in a state of syncope, and cried out that he was dying. Balls of wadding were placed in succession on the part whence the hæmorrhage proceeded, so as to plug the abscess. This arrested the hæmorrhage; and the pressure was maintained by a bandage.

*February 26.* The most superficial balls were removed; they were impregnated with healthy pus, and with a small quantity of blood, evidently that which had remained in the cavity of the abscess. The dressing was completed by some turns of a bandage round the neck and under the axilla of the opposite side.

*March 3.* The whole apparatus was removed with much care. When the deepest plugs were removed, dark blood was observed to exude; and the pulsations of the carotid artery were easily observed at the bottom of the abscess. Compression was carefully applied as before.

*March 9.* The patient was weak, but going on favourably. The dressings were soaked with healthy pus, and were almost entirely reserved. Some rigors, followed by heat and sweating, had appeared at regular intervals, but were successfully combated by sulphate of quinine. There was no vomiting nor diarrhœa, and the catarrhal bronchitis diminished daily.

*March 16.* The dressings were renewed: no blood escaped.

*March 23.* The purulent pouch had almost entirely disappeared, leaving only a superficial wound at the seat of the incision.

*June 26.* The only trace of the injury was a cicatrix at the anterior border of the sterno-mastoid muscle. The movements of the neck were perfectly free. During the whole course of the disease, the cerebral functions had never been for an instant disturbed.

#### ART. 4.—*Treatment of Scarlatinal Otorrhœa.*

In the treatment of the otorrhœa, which sometimes follows scarlatina, M. Trousseau employs, instead of simple alkaline or emollient applications, the same topical remedies as would be used in the most severe affections of the mucous membrane or skin—mercurials or the nitrate of silver. He recommends a liniment, consisting of binoxide of mercury twenty-five parts, oil of sweet almonds and lard, of each five parts. The external meatus is washed out and well dried, and a brush dipped in the liniment is introduced twice a day. By this means M. Trousseau lately cured a case of scarlatinal otorrhœa, in a little girl, which would otherwise probably have destroyed the small bones of the ear, and produced caries of the petrous portion of the temporal bone. M. Trousseau also recommends the application of a solution of nitrate of silver, in addition to the mercurial liniment; it gives no pain, and may be safely entrusted to the parents of the child. A little binoxide of mercury may also be mixed with oil, and dropped into the ear, which is then to be plugged with cotton wool. As long as there is no perforation of the membrana tympani, these remedies are excellent; they are applicable not only to children, but to adults labouring under otorrhœa, or under that form of eczema which renders the meatus dry, and produces some deafness. This is easily remedied by the preparation described above, if care be taken to keep the tissues moist in the intervals with olive oil.

*Journ. de Méd. et de Chir. Pratiques*, Oct. 1856; and *Lond. Journ. of Med.*, April, 1851.

ART. 5.—On *Progressive Muscular Atrophy*.

By M. ARAN.

*(Archives Générales; and British and Foreign Medico-Chirurgical Review, April, 1851.)*

[Under this name Dr. Aran has described a peculiar affection of the muscular system, not hitherto recognised. His observations are deduced from the consideration of eleven cases, divided into two groups; in one of which the affection was partial, in the other involving nearly the entire muscular system.]

*Symptoms.*—Several circumstances confer on this form of atrophy a special character. A debility is first observed in a single limb, or rather part of a limb, so as to confine it to the execution of certain movements, gradually, however, involving a larger portion of it, and generally extending to the opposite one after a time. Cold and fatigue augment it, while cramps and subultus often accompany it. Emaciation of an irregular character follows this, affecting certain muscles only instead of the mass of the limb, and therefore giving rise to various deformities, and finishing with the destruction of the muscular structure and complete annihilation of function.

In nine out of the eleven cases it commenced in the *upper* extremity, the right side suffering first in seven, the left in two, and in two both being simultaneously affected. Sometimes the affection first appeared in the muscles of the shoulders or those of the upper part of the trunk; at others in the fleshy masses of the arm or fore-arm, but most commonly in those of the hand, or the little muscles of the thenar and hypothenar eminences, and the interosseous spaces. Side by side with the atrophied muscles others are found unaffected, even their congeners, which to some degree supply their places. Moreover, in the case of some of the larger muscles, easily separable into bundles of fibres, some of these may remain unaffected. The muscles of the upper extremity, which the author has hitherto always found exempted, are the triceps in the upper arm, and some of those of the anterior part of the fore-arm, and especially the pronator teres and flexor carpi radialis. Intelligent patients have observed the wasting almost simultaneously with the weakness of the part; and if we find a slight wasting of the thenar or hypothenar eminences, or a too-marked depression between the interosseous space, combined with weakness of the hand, and unexplained by any other cause, we may suspect the existence of this disease, our convictions gaining in certainty as more muscles become after a time involved. Normally, the muscles offer a certain amount of *resistance* and *elasticity* on pressure, and in all other atrophies, from whatever cause, these qualities, though *diminished*, are not *lost*. Here they are absent, for not only is the muscle reduced in volume, but its tissue is probably replaced by cellular-adipose tissue, giving to the touch a sense of extreme softness (varying, however, with the degree of the disease, and the propinquity to osseous tissue), while the will cannot impress the slightest tension upon it.

*Fatty transformation* in all the cases is at present only highly probable, for its reality has as yet been shown in but one case, the only one in which an autopsy has taken place.

In an early stage of the disease obstinate cramps, and in a later one subultus and *fibrillary contractions*, may be present. These last may consist of the isolated and involuntary contraction of certain of the muscular fibres, being sometimes so numerous and continuous that the muscle seems in motion, while at others they are so rare as to require close observation for their detection. Voluntary contraction does not suspend them; and they may also appear in other parts not suffering from the disease, as the tongue.

The general economy remains unaffected amidst this slow and progressive muscular destruction; no general symptoms being present, however far the disease may be advanced, and every function being, to all appearance, perfectly performed, except that of voluntary motion.

*Duration and Progress.*—Although a very long interval may elapse between the first symptoms of weakness and the production of complete muscular degeneration, it is always an invading disease; and once having taken possession of the economy, it never retrogrades; the utmost that can be done being to arrest its course, and that by no means with any certainty. The duration is indefinite,

and most of the author's cases came under his notice months or years after their commencement.

**Prognosis.**—Even in its simplest forms, attacking, as it does, persons of laborious occupations in the prime and vigour of life, it is a terrible disease; and where it involves muscles necessary for important functions, as respiration, it may cause death. Even as an infirmity, in its partial form, there is none more beyond our control.

**Diagnosis.**—This affection must be distinguished from the paralyses with which it has been confounded. In *paralysis*, if complete, motion is abolished; if incomplete, it is imperfect. In *atrophy*, so long as sufficient fibre remains to raise the levers, motion is performed, though feebly; abolition or incompleteness being thus the character of the one case, weakness of the other. Moreover there is no symptom of disease of the brain or spinal marrow present, and atrophy resulting from paralysis involves the entire limb. The investigations of M. Duchenne show that atrophy from paralysis very rarely gives rise to complete destruction of muscular power. Hysterical paralysis does not lead to atrophy, and the loss of motion is complete. Rheumatic paralysis is not always complete, but it affects the entire muscles of the region. Paralysis from lesion of a nerve is the form which most rapidly gives rise to atrophy; but this is exclusively confined to the muscles supplied by such nerve. M. Duchenne has shown that electrical irritability is intact in hysterical and rheumatic paralysis, even when atrophy is present. In saturnine paralysis, and paralysis from lesion of a nerve, it is entirely lost; while in progressive muscular atrophy, though enfeebled, it exists until the muscular fibre has entirely disappeared. The disease which offers most analogy to it is *progressive paralysis, independent of insanity*, in which electricity develops only very feeble contractions, even when the muscles retain their normal size and elasticity. The history of the two affections serves to distinguish them.

**Nature and Causes.**—It is primarily and exclusively a *disease of the muscular system*; but its etiology is completely obscure. Of the eleven cases, nine were men and two women—the mean age being 36. The occupations were various (as country labourers, stone-cutters, shoe-makers), some requiring great muscular exertion, and most of the patients complaining of excess of work; so that the author is disposed to consider the too-continuous and excessive employment of the affected limb as a chief occasional cause; although when we consider the rarity of the disease amongst the hundreds of thousands so situated, this is very problematical.

**Treatment.** both general and local, has been most assiduously employed, never with the effect of causing the disease to retrograde, and seldom even of arresting it. Galvanism, localised in its action upon the muscles, seems to be the best palliative.

**ART. 6.—On Spontaneous Formation of Poison in the Human Body. By Dr. GRAVES.**

(*Dublin Quarterly Journal of Medical Science*, Feb. 1851.)

On a former occasion Dr. Graves published some cases, which seemed to prove that external wounds and accidents may give rise to symptoms, which plainly denote the action on the constitution of a poison generated to the wound itself. The following facts are detailed by him in corroboration of the opinion:—

A healthy child scratched her nose with a blunt nail. The wound inflamed and festered, and in several days, the face and general surface became covered with an eruption resembling ecthyma. The child got well in a fortnight. It is curious that the matter from the pustules infected three of her playmates. As soon as this was noticed, the children were separated, and the nascent pustules were checked by applying a weak solution of nitrate of silver. They all recovered.

In another case of a lady, *æt.* 16, bed-sores formed during fever on the sacrum and hips; which gave much trouble, and were very obstinate; but there seemed some chance of recovery, when, on the twenty-fifth day of the fever, she bit her finger during her delirium. It inflamed rapidly, the lymphatics became indurated, and the whole extremity swollen after a few days. The body was covered

with large vesicles, many of which contained an opaque whitish fluid. She died on the thirty-seventh day.

Dr. Graves further states, that he has been able to trace many of the symptoms observed in *rupia cachectica*, and the worst forms of secondary syphilis, to the operation of a poison formed in the irritated ulcers.

## SECT. II.—DISEASES OF THE NERVOUS SYSTEM.

ART. 7.—*On the Premonitory Signs of Severe Cerebral Disease and their importance.*  
By Dr. DEVAY.

(*Gazette Médicale*, Jan., and *London Journal of Medicine*.)

[We have considerably curtailed this valuable essay, but have endeavoured to omit nothing of real utility. The author introduces the subject by remarking on the extreme difficulty in arriving at an accurate diagnosis in cerebral affections, the symptoms being induced by lesions of various kinds—the same difficulty exists in the interpretation of the premonitory symptoms, which are nevertheless excellently demonstrated in the following observations:—]

I. *Premonitory signs, furnished by the intellectual and moral faculties.*—Almost all authors of repute have mentioned, without always attaching much importance to them, the disturbances of intellect which precede attacks of severe cerebral disease. Insanity has its period of incubation, its premonitory symptoms; and frequently it is found that the first act of insanity, which caused alarm, has been preceded by several symptoms which had escaped observation, and sometimes the first phenomenon of the disease has been taken for its cause. The insane often combat their false ideas, before the disorder of their reason, and the internal contest which precedes the explosion of their madness, are perceived. The most general precursor of every severe affection of the brain is a state of *cerebral lassitude*, presenting much analogy to that state of intellectual torpor which follows severe or pestilential fevers. There is observed in the habitual gesture of the patients, in their attitudes and movements, a total absence of what may be called the consciousness of action. The brain seems to have lost its *balancing* power over the *ensemble* of the functions of the life of relation. These patients are often in a constant state of slight habitual vertigo, which they call *weakness of the head*, and which is frequently accompanied by debility in the limbs.

The *memory* is frequently impaired in the precursory period of cerebral affections. Thus, patients have forgotten the names of their friends, or of the most common things. In conversation, they have difficulty in finding proper words to express their meaning, and are obliged to make use of circumlocutions. More rarely, the memory becomes more powerful; it seems to take a new flight, and reproduces, to the great astonishment of the patient and his attendants, events which had seemed to be entirely forgotten. The curious and inexplicable fact of *remembrance* corresponds to the exaltation of the special sensibility of certain senses. It is sometimes observed after a slight attack of apoplexy.

Next to the impairment of the memory, and also of the attention, which is fixed with difficulty, or not at all, on objects presented to the notice of the individual, the most striking change is in *volition*, which is diminished. The man who has hitherto been most firm, who has shown most tenacity in his views, who has pursued the plan of his life with great determination, becomes, in a measure, like the toy of a child; those who are about him, even his inferiors, can command him. Human depravity has often taken advantage of this moral decadence for culpable ends; and the man who has hitherto most rigorously and carefully managed his affairs, is all at once spoiled of his goods, either by extorted donations, or by burdensome expenses. The public see in these *cases bizarreries* of character; the physiologist and the physician see in them

the first expression of a pathological condition. This weakening of the will, which, according to our observations, is chiefly connected with those cerebral lesions which lead to lunacy, or to paralysis of the insane, necessitates an alteration of the judgment. . . . The will is the result of the other faculties; and it is not because it is wanting in the idiot, or lunatic, that they are irresponsible; but rather because they are ignorant of the rules which should direct it.

There is but a slight transition from this to *perversion of the moral faculties*—one of the most mysterious points in psychology.

The abrupt changes which may occur in a man's tastes, in his inclination, in his manner of living, in a word, in his social aspect, are worthy of attention. Modifications of this nature, when they do not appear in a slow and progressive manner, do not arise from the action of moral influences, and can only arise from a change in the nervous system. Thus it has long been remarked, that unusual gaiety in a habitually grave individual may denote the approach of an attack of apoplexy. It is the same with those who suddenly seek for noise and bustle, after having loved retirement and quietness for a great part of their life. We have known a man, aged 57, who, having up to that time led a grave and even austere life, gave himself up to the pursuit of amusements unsuited to his age, and was, a few months after, seized with sudden and complete apoplexy (*apoplexie foudroyante*). A complete change in the turn of the ideas, when it is not the result of advanced age, when it manifests itself in a short period of time, and when it cannot be traced to the action of moral influences, is very suspicious. We have known a young physician who exhibited this phenomenon in a very marked manner, and who, a short time after, was seized with paralysis of the insane. When we knew him three years before, he was very free in his assertions, and inclined to exaggerate; but he had become discreet, and wary in his speech. His former condition, and the medium in which he had lived, showed sufficiently that this change could not be the effect of *progressive amendment*; we considered that there was some disease, and our opinion was ultimately confirmed.

It is conceivable, that the same psychological perturbation which changes the moral sentiments may likewise impair the sentiment of self-preservation; and hence that *suicidal melancholy* may mark the commencement of a severe affection of the brain. The disease is, moreover, very often conjoined with a lesion of the intellectual and affective faculties.

II. *Premonitory Signs furnished by the Sensorial Functions.*—Most of these are furnished by the sense of vision. We will merely mention dimness, the appearance of objects as if coloured red, photophobia, &c., which may indicate threatening meningitis, as well as cerebral hyperæmia; these symptoms bear an especial relation to acute diseases of the encephalon. These signs may exist several years before the explosion of the disease. Before attacks of apoplexy, impairment of vision sometimes exist in a high degree without being known to the patients, especially when, as is most commonly the case, it is not sufficient to prevent them from seeing those who are about them. The mistake is the more easy, as this symptom may be limited to one eye; the other compensating for the weakness of its fellow. Amblyopia is a frequent symptom; sometimes there is a complete blindness, as in the case of the Baron Hornestein, cited by Wepfer (*Anatomia Apoplecticorum*), who became blind three weeks before a fatal attack of apoplexy.

A valuable sign, belonging in some degree to what may be called the expression of the eyes, consists in a want of parallelism in these organs; it is not squinting, nor is it the look of hallucination. It seems pretty well defined by the following expression: *The eyes are not in the axis of the reason*. There may be certain defects in this relation pointed out between a material object and a moral fact; but those persons who are accustomed to scrutinize the human look, and to see reflected in it the different passions will easily understand me.

The phenomenon of exaltation of special sensibility, as a precursory sign of a severe encephalic lesion, is sometimes met with. It is in this case, as in other circumstances in which it is observed, one of the most mysterious problems for the physiologist. It is well known that hearing often becomes excessively acute before attacks of apoplexy. The patients, incommoded by the least noise,

become irascible; they perceive distant sounds which are unheard by those who are with them. This fineness of hearing must be distinguished from the perception of strange and imaginary sounds, which is nothing but a sensorial hallucination.

The sense of *hearing* may present the same modifications as that of vision. Some persons are tormented with drumming in the ear, with continued or intermittent tinkling. Some believe that they hear the most strange noises. These hallucinations are by no means the constant precursors of an encephalic attack; they may be connected with simple perversions of the sensorial function.

*Premonitory Signs furnished by the Organs of Motion and Sensation.*—The alterations in the *muscular functions* present great variety, from the simple hesitation which we have already noticed, to paralysis which is complete, but which, on account of its nature and its seat we shall denominate *irregular paralysis*. It is not uncommon to observe a state of general languor which makes the patients seek for rest—for the *far niente*. Van Swieten has remarked, in treating of apoplexy: *Primo oritur languor et amor quietis et otii*. At other times those who are about to be attacked with cerebral disease are much agitated, and expend a great amount of activity in their movements. Dr. Tessier has lately attended a lady, aged 60, who from the critical age, has been subject to attacks every month, at the period when she used to menstruate. She loses consciousness; and after having recovered her senses, is paralysed on one side of the body, with great embarrassment of speech. These symptoms continue some days, and gradually leave her, to return at the fixed period. But some days before the new attack, this lady, though usually quiet and peaceable, exhibits much agitation; she cannot remain in her place, and those who are about her always know what this sign means. In this case we recognise an example of *periodic nervous apoplexy*.

Impairment of muscular motion is exhibited in various degrees. It is especially remarked in the lower limbs, which seem to bend under the weight of the body and render the gait rather unsteady. This debility is the more striking if the person be young, and has no apparent cause for it. Portal was able to prognosticate an attack of apoplexy in a gentleman apparently in perfect health, from observing a slight fixedness in the left eye and a slight weakness in the leg of the same side. *The digitus semi-mortuus*, noticed by Dr. Marshall Hall, is one of those instances of *irregular paralysis*, of which it is so important to determine the true signification. Some time ago we saw the following case:—A man, aged 54, one day called on us. In conversation, he jokingly noticed a sort of deadness which he felt in the little finger of the left hand, while the rest of the hand was able to perform its ordinary functions. We advised him to put himself under treatment: he neglected this advice, and some days after was seized with cerebral congestion, which left his faculties remarkably weakened. *The digitus semi-mortuus* has shortly since been noticed in a valuable communication from Dr. Gillet de Grandmont.

Irregular paralyses, which seem to arise from exhaustion of the sources of the sensitive and motive powers, may appear under circumstances in which they do not constitute a symptom of such great importance. Such are those which sometimes follow hysterical convulsions, lead-colic, venereal abuses, &c. Here, these phenomena are connected with *transient* modifications of innervation. The suddenness of the attacks, their frequent isolation from other symptoms, their seat in parts distant from each other, while those lying between preserve the integrity of their movements, constitute the exceptional characters of those palsies which are connected with a latent alteration in the nervous centres. We must not lose sight of the difficulty of deglutition which some patients experience some time before being attacked; as well as the semi-paralysis of the vocal cords and tongue, giving rise to stammering or aphonia. The paralysis of the upper eyelids, which become œdematous, is also a sign of great value.

*General sensibility* may be abolished, simply diminished or exaggerated. The first two forms almost always follow muscular paralysis; but they may exist alone. Sensibility may be exaggerated in two forms. The patients may present hyperæsthesia, or exquisite sensibility of the whole cutaneous surface; so that the least touch troubles them. This is an increased anormal sensibility—an

exaggeration of the sense of touch, corresponding to the exaltation of the sensorial faculties which we have already studied. Sensibility may also be exalted in the form of pain; and this merits our most careful attention. Violent pains, precursory of a severe cerebral lesion, have often been mistaken for neuralgia. The same is the case in treating cephalagia, supposed to be dependent on dyspepsia: and this error is more readily fallen into, as the stomach is often disordered. The diagnosis in these cases is sometimes difficult; but the duration and violence of the pain will lead to the suspicion, that there is something more than ordinary headache; and that, although the functions of the stomach are troubled at the same time, the headache is often too intense to be accounted for by the state of that organ. The patient cannot in general endure a warm room, nor the noise made by persons about him, nor even the fatigue of agreeable conversation, without suffering an aggravation of his headache. The paroxysms are sometimes accompanied with vomiting, and sometimes with violent beating in the head. If with these symptoms we remark paleness of face and weakness of pulse, and if active measures have been employed without benefit, we are led to suspect the presence of organic lesion.\* Painful cramps are not unfrequent. Portal has seen patients who suffered severely from cramps in the legs before an attack of apoplexy.

Cutaneous sensibility presents other singular modes of perversion. A case is related of a man who, several months before being attacked with apoplexy, experienced from time to time an absolute loss of sensibility on five or six isolated points of the skin of the thorax, each of about the size of a five-franc piece. Here the skin might be pinched without causing any pain; beyond, the sensibility was perfect. These partial abolitions of sensation were not constant. On some days there was not the least diminution of sensibility; then suddenly, and simultaneously, it was annihilated in the isolated portions. Such unusual modifications of functions directly dependent on the brain, ought to furnish us with arguments in favour of the possibility of moral and instinctive perversions, and of their dependence, not on the corruption of the moral faculty itself, but on a latent pathological condition of the organ. Hence arises the doctrine of irresponsibility.

It is in the life of relation that indicatory signs are especially to be looked for. At the initial period of severe cerebral disease, organic life reveals few or no disturbances. The symptoms which may exist under this head only acquire value in connexion with those which are derived from the life of relation. The brain must be much affected to produce changes in the nutritive function. Excepting sleep, which is one of the confines of animal and organic life, there is not in the latter any essential functional disturbance. In the initial period, most patients have lost the power of sleep; or, if this function be performed, it is rather a fatiguing drowsiness than refreshing sleep. The digestive functions present no other special disorder than obstinate constipation, which is often difficult to be overcome by drastics. The eyelids sometimes become œdematous; and, in some subjects, attacks are preceded by small effusions of blood, even in the tissue of the conjunctiva. The secretions are but little altered. The urine is sometimes highly albuminous; but this is a subject for further researches.

ART. 8.—*On the Diagnostic Value of Pains in the Head.*

By DAVID NELSON, M.D.

(*Prov. Med. and Surg. Journal*, March 5, 1851.)

[The following remarks occur as part of a clinical lecture on the morbid conditions of the nervous system. Speaking of headache, Dr. Nelson observes:—]

In the first place, we have to inquire regarding the existence of pain, and of what character the pain may be, for there is nothing that is more varied, or that indicates so many different conditions. It may be simply of a spasmodic kind, occurring at intervals of a greater or less duration; due to anæmia, or other causes of debility; to irregular transmissions of nervous force, or to that functional perversion of the sensic centre which are denominated hypochondriasis and hys-



teria. This pain is to be distinguished by its not being increased, but rather lessened, under exertion of mind or body, by the eccentricity of its visits, and by its being relieved by antispasmodics, stimulants, or tonics.

An organic pain will be fixed, and always aggravated under exertion, or any other stimulant, to the circulation; and may depend either on acute hyperæmia or passive congestion, or any of their results, from a solid clot to a simple effusion of serum. In the event of acute action, the pain will be of a darting character, with much heat of the scalp, fiery sensitive eyes, and great watchfulness, and will require abstraction of blood, mercurial purgation, and the application of cold. In passive congestion, or in effusion, the pain will be dull and heavy, with perhaps some heat of the scalp, but the eyes will be darkly suffused, the general frame less sensitive of external agents, and the sufferer will rather be inclined to drowsiness. The pain may further be of a rheumatic nature, depending on some especial determination of irritating urinary salts which may be retained in the circulation; this is to be inferred from the general history of the patient's constitution, from the presence of contemporaneous pains in the joints, and from the state of the urine. If confined to the external parts, as it commonly is, it will readily be removed by the ordinary remedies for rheumatism, but if it involve the brain itself, or its membranes, it is likely to prove as fatal and irresistible as other affections of that organ are known to be. The headache that proceeds from derangement of the stomach or bowels is commonly called a sympathetic one, arising from the immediate nervous connexions that exist between the abdominal viscera, and especially the stomach and brain. At its first onset it will certainly be subdued in exact correspondence with the success which attends your treatment of the digestives, whether such treatment be directed to the neutralization of acid, or oils, or the simple expulsion of any other irritating matter, or to the removal of hyperæmia. But it will certainly sometimes continue long after the stomach and bowels have been brought back to a tolerably healthy state of action, especially when the previous complaint happens to have been of very long standing. This is especially illustrated in the hydrocephalus which supervenes as a secondary effect on the abdominal affections of young children, though it may perhaps be doubted whether the functions of any organ can ever be perfectly renewed after any protracted attack of inflammation, however mild. Another sort of headache is consequent upon very long fasting, or watchfulness, or mental effort, or any other cause of nervous exhaustion, and this of course can only be removed by nutrients and rest, aided by some stimulant, as very well instanced in the headache which succeeds a debauch, or excessive grief. I have already spoken of the heat of the scalp, of the appearances of the eye, and of the nature of the pain, as illustrative of the different forms of hyperæmia which may be suspected, but may also add that the condition of the tongue has a close connexion with such a state of things. Along with the bilious sympathetic headache, and that of congestion, we have a tongue thickly furred with white or brownish yellow; emetics are advisable for the first, but not for the second, if much straining be anticipated. In the nervous headache, and that which is concomitant with affections of the lesser bowels and colon, it is almost always clean, but entirely red; but as alteration of structure advances, the fur again returns, at first of a simple white, next a yellow, afterwards brown, and lastly a deep dry black. In the headache that accompanies certain enlargements and other affections of the liver, the tongue will be found of a bright pink colour, moist, and of a glassy smoothness, either in whole or in part; or, on the other hand, it will be deeply fissured transversely.

ART. 9.—*Extracts from a Clinical Lecture on Diseases of the Nervous System.*  
By DR. HUGHES BENNET.

(*Monthly Journal of Medical Science*, March, 1851.)

I. *Functions of the Nervous System.*—The great difference in structure existing between the gray and white matter of the nervous system, would *a priori* lead to the supposition that they performed separate functions. The theory at present entertained on this point is, that, while the gray matter eliminates or evolves nervous power, the white matter simply conducts to and from this ganglionic structure the influences which are sent to originate there.

The brain proper furnishes the condition necessary for the manifestation of the intellectual faculties properly so called, of the emotions and passions, of volition, and is essential to sensation. That the evolution of power especially connected with mind is dependent on the hemispherical ganglion is rendered probable by the following facts:—1. In the animal kingdom generally a correspondence is observed between the quantity of gray matter, depth of convolutions, and the sagacity of the animal. 2. At birth, the gray matter of the cerebrum is very defective, so much so, indeed, that the convolutions are, as it were, in the first stage of their formation, being only marked out by superficial fissures almost confined to the surface of the brain. As the cineritious substance increases, the intelligence becomes developed. 3. The results of experiments by Flourens, Rolando, Hertwig, and others, have shown that, on slicing away the brain, the animal becomes dull and stupid in proportion to the quantity of cortical substance removed. 4. Clinical observation points out, that in those cases in which the disease has been afterwards found to commence at the circumference of the brain and proceed towards the centre, that the mental faculties are affected *first*; whereas in those diseases which commence at the central parts of the organ and proceed towards the circumference, they are affected *last*.

The white tubular matter of the brain proper serves, by means of the diverging fibres, to conduct the influences originating in the hemispherical ganglion to the nerves of the head and trunk, whilst they also conduct the influence of impressions made on the trunk, in an inverse manner, up to the cerebral convolutions. The other transverse and longitudinal fibres which connect together the two hemispheres, and various parts of the hemispherical ganglion, are probably subservient to that combination of the mental faculties which characterizes thought.

The spinal cord, both in its cranial and vertebral portions, furnishes the conditions necessary for combined movements; and that the nervous power necessary for this purpose depends upon the gray matter, is rendered probable by the following facts:—1st. Its universal connexion with all motor nerves. 2d. Its increased quantity in those portions of the spinal cord from whence issue large nervous trunks. 3d. Its collection in masses at the origin of such nerves in the lower animals as furnish peculiar organs requiring a large quantity of nervous power, as in the *triglia volitans*, *raia torpedo*, *silurus*, &c. 4th. Clinical observation points out that, in cases where the central portion of the cord is affected previous to the external portion, an individual retains the sensibility of, and power of moving the limbs, but wants the power to stand, walk, or keep himself erect, when the eyes are shut; whereas, when diseases commence in the meninges of the cord or externally, pain, twitchings, spasms, numbness, or paralysis, are the symptoms present, dependent on lesion of the white conducting matter.

The white matter of the cord acts as a conductor, in the same manner that it does in the brain proper, and there can be no doubt that the influence arising from impressions is carried along the tracts, formerly noticed, which connect the brain and two portions of the spinal cord together. It is now also determined, that many of the fibres in the nerves may be traced directly into the gray substance of the cord,—a fact originally stated by Grainger, but confirmed by Budge and Kölliker.

The various nerves of the body consist for the most part of nerve tubes, running in parallel lines. Yet some contain ganglionic corpuscles, as the olfactory, and the expansion of the optic nerve constituting the retina, whilst the sympathetic nerve contains in various places, not only ganglia, but gelatinous flat fibres. The posterior roots of the spinal nerves possess a ganglion, the function of which is quite unknown. These roots are connected with the posterior horn of gray matter in the cord, while the anterior roots are connected with the anterior horns. As regards function, the nerve may be considered as—1st. Nerves of special sensation, such as the olfactory, optic, auditory, part of the glosso-pharyngeal and lingual branch of the fifth. 2d. Nerves of common sensation, such as the greater portion of the fifth, and part of the glosso-pharyngeal. 3d. Nerves of motion, such as the third, fourth, lesser division of the fifth, sixth, facial or portio dura of the seventh, and the hypo-glossal. 4th. Senso-motory or mixed nerves,

such as the pneumo-gastric, the accessory, and the spinal nerves of the head, thorax, and abdomen,—the exact function of which has not been determined.

All nerves are endowed with a peculiar vital property called *sensibility*, inherent in their structure, by virtue of which they may be excited on the application of appropriate stimuli, so as to transmit the influence of the impressions they receive to or from the brain, spinal cord, or certain ganglia, which may be considered as nervous centres. The nerves of special sensation convey to their nervous centres the influence of impressions caused by odoriferous bodies, by light, sound, and by sapid substances. The nerves of common sensation convey the influence of impressions to their nervous centres caused by mechanical or chemical substances. The nerves of motion carry *from* the nervous centres the influence of impressions, whether psychical or physical (Todd). The mixed nerves carry the influence of stimuli both to and from, combining in themselves the functions of common sensation and of motion. Although the sympathetic nerves also undoubtedly carry the influences of impressions, the direction of these cannot be ascertained, from their numerous anastomoses, as well as from the ganglia scattered over them, all of which act as minute nervous centres. But there are cases where certain psychical stimuli (as the emotions) act on organs through these nerves, and where certain diseases (as colic, gallstones, &c.) excite through them sensations of pain.

Sensation may be defined to be *the consciousness of an impression*, and that it may take place, it is necessary,—1st. That a stimulus should be applied to a sensitive nerve, which produces an impression. 2d. That, as the result of this impression, a something should be generated, which we call an influence, which influence is conducted along the nerve to the hemispherical ganglion. 3d. On arriving there, it calls into action that faculty of the mind called consciousness or perception, and sensation is the result. It follows that sensation may be lost by any circumstance which destroys the sensibility of the nerve to impressions, which impedes the process of conducting the influence generated by these impressions, or, lastly, which renders the mind unconscious of them. Illustrations of how sensation may be affected in all these ways must be familiar to you, from circumstances influencing the ultimate extremity of a nerve, as on exposing the foot to cold,—from injury to the spinal cord, by which the communication with the brain is cut off, or from the mind being inattentive, excited, or suspended.

The independent endowment of nerves is remarkably well illustrated by the fact, that whatever be the stimulus which calls their sensibility into action, the same result is occasioned. Mechanical, chemical, galvanic, or other *physical* stimuli, when applied to the course or the extremities of a nerve, cause the very same results as may originate from suggestive ideas, perverted imagination, or other *psychical* stimuli. Thus a chemical irritant, galvanism, or pricking and pinching a nerve of motion, will cause convulsion and spasms of the muscles to which it is distributed. The same stimuli applied to a nerve of common sensation will cause pain, to the optic nerve flashes of light, to the auditory nerve ringing sounds, and to the tip of the tongue peculiar tastes. Again, we have lately had abundant opportunities of seeing that suggestive ideas, or stimuli arising in the mind, may induce peculiar effects on the muscles, give rise to pain or insensibility, and cause perversion of all the special senses.

Motion is accomplished through the agency of muscles, which are endowed with a peculiar vital property, called *contractility*, in the same way that nerve is endowed with the property of sensibility. Contractility may be called into action altogether independent of the nerves (Haller), as by stimulating an isolated muscular fasciculus directly (Weber). It may also be excited by physical or psychical stimuli, operating through the nerves. Physical stimuli applied to the extremities or course of a nerve, may cause convulsions of the parts to which the motor filaments are distributed directly, or they may induce combined movements in other parts of the body *diastaltically* (Marshall Hall),—that is, through the spinal cord. In this latter case the following series of actions take place:—1st. The influence of the impression is conducted to the spinal cord by the afferent or *sodic* filaments which enter the gray matter. 2d. A motor

influence is transmitted outwards by one or more efferent or *exotic* nerves. 3d. This stimulates the contractility of the muscles to which the latter are distributed, and motion is the result. Lastly, contractility may be called into action by psychical stimuli or mental acts—such as by the will and by certain emotions. Integrity of the muscular structure is necessary for contractile movements; of the spinal cord, for diastaltic or reflex movements; and of the brain proper, for voluntary or emotional movements.

Thus, then, we may consider that the brain acting alone furnishes the conditions necessary for intelligence; the spinal cord acting alone furnishes the conditions essential for the co-ordinate movements necessary to the vital functions; and the brain and spinal cord acting together furnish the conditions necessary for voluntary motion and sensation.

II. *The Pathological Laws which Regulate Diseased Functions of the Nervous System.*—For the purposes of diagnosis and treatment, it is a matter of great importance to attend to the following generalizations:—

(1). *The amount of fluids within the cranium must always be the same so long as its osseous walls are capable of resisting the pressure of the atmosphere.*—There are few principles in medicine of greater practical importance than the one we are about to consider;—the more so, as many able practitioners have lately abandoned their former opinions on this head, and on what I consider to be very insufficient grounds. On this point, therefore, I cannot do better than condense and endeavour to put clearly before you the forcible arguments of the late Dr. John Reid, with such other considerations as have occurred to myself.

That the circulation within the cranium is different from that in other parts of the body, was first pointed out by the second Monro. It was tested experimentally by Dr. Kellie of Leith, ably illustrated by Dr. Abercrombie, and successfully defended by Dr. John Reid. The views adopted by these distinguished men were, that the cranium forms a spherical bony case, capable of resisting the atmospheric pressure, the only openings into it being the different foramina by which the vessels, nerves, and spinal cord pass. The encephalon, its membranes, and blood-vessels, with perhaps a small portion of the cerebro-spinal fluid, completely fill up the interior of the cranium, so that no substance can be dislodged from it without some equivalent in bulk taking its place. Dr. Monro used to point out, that a jar, or any other vessel similar to the cranium, with unyielding walls, if filled with any substance, cannot be emptied without air or some other substance taking its place. To use the illustration of Dr. Watson, the contents of the cranium are like beer in a barrel, which will not flow out of one opening, unless provision be made at the same time that air rushes in. The same kind of reasoning applies to the spinal canal, which, with the interior of the cranium, may be said to constitute one large cavity, incompressible by the atmospheric air.

Before proceeding further, we must draw a distinction between pressure on, and compression of, an organ. Many bodies are capable of undergoing a great amount of pressure without undergoing any sensible decrease in bulk. By compression must be understood, that a substance occupies less space from the application of external force, as when we squeeze a sponge, or compress a bladder filled with air. Fluids generally are not absolutely incompressible, yet it requires the weight of one atmosphere, or fifteen pounds in the square inch, to produce a diminution equal to  $\frac{1}{10000}$ th part of the whole. Now this is so exceedingly small a charge upon a mass equal in bulk to the brain, as not to be appreciable to our senses. Besides, the pressure on the internal surface of the blood-vessels never exceeds ten or twelve pounds on the square inch, during the most violent exertion, so that, under no possible circumstances, can the contents of the cranium be diminished even the  $\frac{1}{10000}$ th part. When the brain is taken out of the cranium, it may, like a sponge, be compressed, by squeezing fluid out of the blood-vessels; but during life, surrounded, as it is, by unyielding walls, this is impossible. For let us, with Abercrombie, say, that the whole quantity of blood circulating within the cranium is equal to 10—5 in the veins, and 5 in the arteries; if one of these be increased to 6, the other must be diminished to 4, so that the same amount, 10 is always preserved. It follows, that when fluids are effused, blood extravasated, or tumours grow, a corresponding

amount of fluid must be pressed out, or of brain absorbed, from the physical impossibility of the cranium holding more matter. At the same time, it must be evident that an increased or diminished amount of pressure may be exerted on the brain, proportioned to the power of the heart's contraction, the effect of which will be, not to alter the amount of fluids within the cranium, but to cause, using the words of Abercrombie, "a change of circulation" there.

Dr. Kellie performed numerous experiments on cats and dogs, in order to elucidate this subject. Some of these animals were bled to death by opening the carotid or femoral arteries, others by opening the jugular veins. In some the carotids were first tied, to diminish the quantity of blood sent to the brain, and the jugulars were then opened, with the view of emptying the vessels of the brain to the greatest possible extent; while, in others, the jugulars were first secured, to prevent as much as possible the return of the blood from the brain, and one of the carotids was then opened. He inferred, from the whole inquiry, which was conducted with extreme care, "That we cannot, in fact, lessen, to any considerable extent, the quantity of blood within the cranium by arteriotomy or venesection; and that when, by profuse hæmorrhages destructive of life, we do succeed in draining the vessels within the cranium of any sensible portion of red blood, there is commonly found an equivalent to this spoliation in the increased circulation or effusion of serum, serving to maintain the plenitude of the cranium."

Dr. Kellie made other experiments upon the effects of position immediately after death from strangulation or hanging. He also removed a portion of the unyielding walls of the cranium in some animals, by means of a trephine, and then bled them to death; and the differences between the appearances of the brain in these cases, and those where the cranium was entire, were very great. One of the most remarkable of these differences was its shrunk appearance, in those animals in which a portion of the skull was removed, and the air allowed to gravitate upon its inner surface. He says:—"The brain was sensibly depressed below the cranium, and a space left, which was found capable of containing a teaspoonful of water."

It results from these inquiries, that there must always be the same amount of fluids within the cranium so long as it is uninjured. In morbid conditions these fluids may be blood, serum, or pus; but in health, as blood is almost the only fluid present (the cerebro-spinal fluid being very trifling), its quantity can undergo only very slight alterations. There are many circumstances, however, which occasion local congestions in the brain, and consequently unequal pressure on its structure, in which case another portion of its substance must contain less blood, so that the amount of the whole, as to quantity, is always preserved. These circumstances are mental emotions, hæmorrhages, effusions of serum, and morbid growths. Such congestions, or local hyperæmias, in themselves constitute morbid conditions; and nature has, to a great extent, provided against their occurrence under ordinary circumstances, by the tortuosity of the arteries and the cerebro-spinal fluid, described by Magendie.

The views now detailed, had been very extensively admitted into pathology, when Dr. Burrows of St. Bartholomew's Hospital, endeavoured to controvert them, first in the Lumleian lectures of 1843, and subsequently in a work published in 1846, entitled, "On Disorders of the Cerebral Circulation, and on the Connection between Affections of the Brain and Diseases of the Heart." Dr. Burrows, however, evidently formed the most confused notions of the doctrine we are advocating; for, instead of stating it as propounded by its authors, he *actually misrepresented it*, as Dr. Reid pointed out. Thus, he is always combating the idea that bloodletting, position, strangulation, &c., cannot affect the *blood in the brain*; whereas the real proposition is, that they cannot alter the *fluids within the cranium*. By thus confounding blood with fluid, and brain with cranium, he has only contrived to overthrow a theory of his own creation.

Dr. Burrows has brought forward several observations and experiments, which he considers opposed to the theory now advocated. His facts are perfectly correct. I myself have repeated his experiments on rabbits, and can confirm his descriptions. It is the inferences he draws from them that are erroneous. For the paleness which results from hæmorrhage, and the difference observable in

the colour of the brain, when animals, immediately after death, are suspended by their ears or by their heels, is explicable by the diminished number of coloured blood particles in the one case, and by their gravitation downwards in the other. That the amount of fluid within the cranium was in no way affected, is proved by the plump appearance of the brains figured by Dr. Burrows, and the total absence of that shrunken appearance so well described by Dr. Kellie.

Neither does our observation of what occurs in asphyxia or apnoea, oppose the doctrine in question, as Dr. Burrows imagines, but rather confirms it. On this point the following observations by Dr. John Reid are valuable. He says:—"If any circumstance could produce congestion of the vessels within the cranium, it would be that of death by hanging; for then the vessels going to and coming from the brain are, with the exception of the vertebral arteries, compressed and then obstructed. These two arteries, which are protected by the peculiarity of their course through the foramina of the transverse processes of the cervical vertebrae, must continue for a time to force their blood upon the brain, while a comparatively small quantity only can escape by the veins. Indeed, the greater quantity of blood carried to the encephalon by the vertebrales returns by the internal jugulars, and not by the vertebral veins, which are supplied from the occipital veins of the spinal cord; and the anastomoses, between the cranial and vertebral sinuses, could carry off a small quantity of the blood only, transmitted along such large arteries as the vertebrales. And yet it is well known that there is no congestion of the vessels within the cranium after death by hanging, however gorged the external parts of the head may be by blood and serum." This is admitted by Dr. Burrows, although he endeavours to get rid of so troublesome a fact by a gratuitous hypothesis, which will not bear a moment's examination, but for the refutation of which I must refer to the works of Dr. Reid.

On the whole, whether we adopt the expressions of local congestion, of change of circulation within the cranium (Abercrombie), or of unequal pressure (Burrows), our explanation of the *pathological* phenomena may be made equally correct, because each term implies pretty much the same thing. But if we imagine that venesection will enable us to diminish the amount of blood in the cerebral vessels, the theory points out that this is impossible, and that the effects of bleeding are explained by the influence produced on the heart, the altered pressure on the brain, exercised by its diminished contractions, and the change of circulation within the cranium thereby occasioned.

I have entered somewhat fully into this theory, because, independent of its vast importance in a practical point of view, it is one which originated in, and has always been maintained by, the Edinburgh School of Medicine. Singular to say, notwithstanding the obvious errors and fallacies in Dr. Burrows's work, no sooner did it appear than the whole medical press of England and Ireland adopted its conclusions, and even Dr. Watson, in the last edition of his excellent work, also abandoned the theory of Monro, Kelly, and Abercrombie. But so far is this theory concerning the circulation within the cranium from being shaken by the attack of Dr. Burrows, that it may be said now to stand on a firmer basis than ever, owing to that attack having drawn forth the convincing reasoning and unanswerable arguments of so sound an anatomist, physiologist, and pathologist as the late Dr. John Reid.

(2.) *All the functions of the nervous system may be increased, perverted, or destroyed, according to the degree of stimulus or disease operating on its various parts.*—Thus, as a general rule, it may be said, that a slight stimulus produces increased or perverted action; whilst the same stimulus, long continued or much augmented, causes loss of function. All the various stimuli, whether mechanical, chemical, electrical, or physical, produce the same effects, and in different degrees. Circumstances influencing the heart's action, stimulating drinks or food, act in a like manner. Thus, if we take the effects of alcoholic drink, for the purpose of illustration, we observe that, as regards combined movements, a slight amount causes increased vigour and activity in the muscular system. As the stimulus augments in intensity, we see irregular movements occasioned, staggering, and inability of directing the limbs. Lastly, when the stimulus is excessive, there is complete inability to move, and the power of doing so is temporarily anni-

hilated. With regard to sensibility and sensation, we observe cephalalgia, tingling, and heat of the skin, tinnitus aurium, confusion of vision, muscæ volitantes, double sight, and lastly, complete insensibility, and coma. As regards intelligence, we observe at first rapid flow of ideas, then confusion of mind, delirium, and lastly sopor and perfect unconsciousness. In the same manner pressure, mechanical irritation, and the various organic diseases, produce augmented, perverted, or diminished function, according to the intensity of the stimulus applied, or amount of structure destroyed.

Thus it has been shown, that excess or diminution of stimulus, too much or rather too little blood, very violent or very weak cardiac contractions, and inflammation or extreme exhaustion, will, so far as the nervous functions are concerned, produce similar alterations of motions, sensation, and intelligence. Excessive hemorrhage causes muscular weakness, convulsions, and loss of motor power, perversions of all the sensations, and lastly, unconsciousness from syncope. Hence the general strength of the frame cannot be judged of by the nervous symptoms, although the treatment of these will be altogether different, according as the individual is robust or weak, has a full or small pulse, &c. These similar effects on the nervous centres from apparently such opposite exciting causes, can, it seems to me, only be explained by the peculiarity of the circulation, previously noticed. A change of circulation within the cranium takes place, and whether arterial or venous congestion occurs, pressure on the organ is equally the result. The importance of paying attention to this point in the treatment must be obvious.

(3.) *The seat of the disease in the nervous system influences the nature of the phenomena or symptoms produced.*—It is a matter of very great importance to ascertain how far certitude in diagnosis may be arrived at, and the seat of the disease ascertained. On this subject it may be affirmed that, although clinical observation combined with pathology have done much, more requires to be accomplished. As a general rule, it may be stated, that disease or injury of one side of the encephalon, above the decussation in the medulla oblongata, especially influences the opposite side of the body; whilst, if the spinal cord be affected below the decussation, the influence produced is not crossed, but direct. It is said that some very striking exceptions have occurred to this rule, but these at any rate are remarkably rare. Besides, it has always appeared to me probable that, inasmuch as extensive organic disease, if occurring slowly, may exist without producing symptoms, whilst it is certain most important symptoms may be occasioned without organic disease, even these few exceptional cases are really not opposed to the general law. Then, as a general rule, it may be said that diseases of the brain proper are more especially connected with perversion and alteration of the intelligence; whilst disease of the cranial portion of the spinal cord and base of the cranium, are more particularly evinced by alterations of sensation and motion. In the vertebral portion of the cord, the intensity of pain and of spasm, or want of conducting power, necessary to sensation and voluntary motion, indicates the amount to which the motor and sensitive columns are affected. Further than this we can scarcely generalize with prudence, although there are some cases, as we shall subsequently see, where careful observation has enabled us to arrive at more positive results.

The fatality of lesions affecting various parts of the nervous centres varies greatly. Thus the hemispheres may be extensively diseased, often without injury to life, or even permanent alteration of function. Convulsions and paralysis are the common results of the disease of the ganglia, in the cranial portion of the cord. The same results from lesion of the pons varolii. But this, if it affect the medulla oblongata, where the eighth pair originates, or injury to this centre itself, is almost always immediately fatal.

(4.) *The rapidity or slowness with which the lesion occurs influences the phenomena or symptoms produced.*—It may be said as a general rule, that a small lesion, for instance a small hemorrhagic extravasation, occurring suddenly, and with force, produces, even in the same situation, more violent effects than a very extensive organic disease which comes on slowly. Here, however, much will depend upon the seat of the lesion. Very extraordinary cases are on record, where large portions of the nervous centres have been much disorganized, without

producing anything like such violent symptoms as have been occasioned at other times by a small extravasation in the same place. Here again the nature of the circulation within the cranium offers the only explanation, for the encephalon must undergo a certain amount of pressure, if no time be allowed for it to adapt itself to a foreign body; whereas any lesion coming on slowly enables the amount of blood in the vessels to be diminished according to circumstances, whereby pressure is avoided.

(5.) *The various lesions and injuries of the nervous system produce phenomena similar in kind.*—The injuries which may be inflicted on the nervous system, as well as the morbid appearances discovered after death, are various. For instance, there may be an extravasation of blood, exudation of lymph, a softening, a cancerous tumour, or tubercular deposit, and yet they give rise to the same phenomena, and are modified only by the circumstances formerly mentioned, of degree, seat, suddenness, &c. Certain nervous phenomena are also of a paroxysmal character, whilst the lesions supposed to occasion them are stationary or slowly increasing. It follows, that the effects cannot be explained by the nature of the lesions, but to something which they all have in common; and this, it appears to me, may consist of,—1st, pressure with or without organic change; 2d, more or less destruction or disorganization of nervous texture. Further, when we consider that the same nervous symptoms arise from irregularities in the circulation from increased as well as diminished action, sometimes when no appreciable change is found, as well as when disorganization has occurred, the theory of local congestions in the nervous centres seems to me the most consistent with known facts. That such local congestions do frequently occur during life, without leaving traces detectable after death, is certain; whilst the occurrence of molecular changes, or other hypothetical conditions which have been supposed to exist, have never yet been shown to take place under any circumstances.

ART. 10.—*On a Functional Affection of the Spine which may be mistaken for Organic Disease.*—By HENRY KENNEDY, A.B., &c.

(*Dublin Medical Press, and Prov. Med. and Surg. Journal, Feb. 10, 1851.*)

The affection to which Dr. Kennedy alludes is essentially a disease of early life, generally occurring between the ages of twelve and twenty. It is more common in males than in females. It consists in a pain in the back and loins, commencing gradually, and may or may not be attended with the feeling of weakness, and occasionally it is only the latter that is complained of. The patients will say that if they have occasion to stoop—as, for instance, to tie their shoe—the rising up gives the feeling as if the back would break. When we come to examine the spine, the patient is nearly always able to refer the suffering to a particular part, but Dr. Kennedy has seen cases where they could not do so, the feeling being then more diffused; and it is particularly worthy of notice, that a rough examination of the part may be made—the spine may be twisted, or percussion strongly used, and yet the patient will not complain of it. When left to their own feelings, they invariably prefer the recumbent posture. Walking is much less irksome than sitting, and particularly when they have no support for the back. In addition to an ordinary chair, they will use a cushion, so that it may press on the spine where they complain; and even when reclining at full length, it is not uncommon to see a cushion placed in the hollow of the back, and in this way to cause direct pressure, in fact the feeling of support is one they cannot do without, and they will use many devices to attain it. Those whose business leads them to stand and work at a desk, seem peculiarly liable to the affection.

The following case illustrates the affection:—Mr. ———, a young gentleman of 18, whose employment was in an office in Dublin, where he spent six to seven hours a day, partly standing and partly sitting, at a desk, began to suffer from pain in the small of the back. He was a person of small size, but of a highly developed nervous system, as was shown when he laboured under any common indisposition—as, for instance, a cold. The pain in the back was trifling at first, though constant, so that he was able to pursue his usual avoca-



tions for about four months, when it became so distressing that he was compelled to confine himself to a sofa the greater portion of the day, and when he did sit up he always used a cushion between his back and the chair. On examination nothing wrong could be detected with the part of the spine of which he complained most, which was about the third lumbar vertebra; it could be twisted, and otherwise roughly handled, without causing any inconvenience, but to sit without support could not be endured beyond a few moments. And it is particularly to be observed, that when he had any inducement, he could go through an amount of exertion on his feet, which seemed totally incompatible with the other symptoms present. His general health appeared good, his tongue clean, his appetite not impaired, and, in fact, except for the complaint of the back, he was otherwise well.

He continued in this state for four months, during which time he was seen by the late Mr. Carmichael, and a variety of treatment was adopted, but no means used were of decisive benefit. In two months more he had recovered so far as to be able to resume his business, and at a still later period recovered completely; nor has he ever since, though some years have passed, suffered from the same affection.

On the subject of treatment the author has nothing of a very definite nature to offer. A considerable variety of means have been used, of both a local and constitutional kind. The former included local bleedings, dry cupping, blisters, frictions, the cold douche, and galvanism; and the latter, aperients, tonics, change of air, and relaxation from business. Of these two, the latter have, in his experience proved by much the most useful. He has also seen benefit follow the application of small and repeated blisters, as also the use of a weak stream of galvanism, applied daily, or every second day, according to circumstances. The patient, too, has often got great relief from wearing a stiff belt; indeed, this is a measure which should not, in any case, be forgotten. Still the general measures are the more important. In all the severer cases the patient will have to give up his business for a time; two to three months' complete relaxation must be enjoined, and if the patient can change his air so much the better.

#### ART. 11.—On *Epilepsy and Epileptoid Affections.*

By DR. MARSHALL HALL.

(On the *Threatenings of Apoplexy*, &c., p. 63.)

[The following extract is taken from a reprint of some lectures delivered before the College of Physicians. The word *trachelismus*, our readers may be reminded, is applied by the author to the effect of compression of the jugular veins by the platysma and other cervical muscles, which he maintains to be the cause of paroxysmal cerebral seizures:]

The epileptoid or epileptic seizure is still more directly characterized by *trachelismus*. In some cases the whole attack consists in a fixed state of head and eye, dilated pupil, and a deep flush. In other instances, unusual flushing of the face, with suffusion of the eye or eyelid, is the forerunner of a decidedly epileptic seizure. Everything tends to prove that the earliest effect, whether in apoplexy or epilepsy, is a state of *trachelismus*.

In the slighter forms of these maladies, there is, in reality, no difference. The threatening of apoplexy is so far spasmodic, that is, *spinal*, that it consists in *trachelismus* with its effects on the countenance and encephalon; the *petit mal* has even been designated *cerebral*, from its principal symptoms. The condition of the countenance and of the brain is identical. I repeat, there is no difference. The real difference between apoplexy and epilepsy is only seen in their severer forms. It is then that, whilst apoplexy is only attended by the simpler *trachelismus*, in epilepsy, to this simpler *trachelismus* is superadded another form or degree of the same affection, with all the peculiarity it induces, *laryngismus*, and, in its train, it may be, *odaxismus*, or the—*trachelismus*, shall I call it?—involved in the *bitten tongue*. Now it is that, whereas the further phenomena in apoplexy are *cerebral*, those in epilepsy are *spinal*.

The first stage or first degree of both apoplexy and epilepsy consists then in

trachelismus,—a spasmodic or spinal action, manifested in its effects on the venous circulation of the countenance and of the encephalon. The second stage or degree of these maladies, is augmented cerebral affection in the former, of spinal affection in the latter; the difference consisting in the different forms assumed by the trachelismus, or of the muscles contracted, and of the veins compressed and obstructed. If these muscles are those which compress the jugulars, the case is apoplexy; but if they are those which compress the vertebrals, and close the larynx, it is epilepsy! At least, I have not been able to resist the train of thought which has forced itself upon me, and which I lay before you with the utmost frankness, trusting to you to give it your most candid consideration.

Both paroxysmal apoplexy and epilepsy are, then, first *spinal* or spasmodic, only in different degree and extent; both become *cerebral*, both leading to *coma* and, it may be, to *paralysis*; both terminating, occasionally, in *mania* or *amentia*.

Gentlemen, I commend these views at once to your indulgent consideration. I am persuaded I have taken a real step in the pathology of these dire and herculean affections. But if I have failed, I have failed in that which the celebrated Esquirol, after a life devoted to the subject, declared to be impossible!—"Les symptômes de l'épilepsie sont tellement extraordinaires, tellement au dessus de toute explication physiologique; les causes de cette maladie sont tellement inconnues, que les anciens ont cru qu'elle dépendait du courroux des dieux."

The great fact is—that trachelismus, a spasmodic affection of the neck, is the first, or rather the second, link in the chain of actions which lead to paroxysmal apoplexy or paralysis, or mania, as well as epilepsy and the epileptoid affections.

I think I need not insist further on this fact, so important in the pathology. And it is precisely the same fact which leads us into the true path of treatment.

May a fit of sickness and vomiting, timeously induced, be made to anticipate and supersede, and take the place, as it were, of a fit of epilepsy? How full of the deepest interest is this momentous question!

And then there is another question—When ought this emetic to be given?

There are, I believe, two periods when this is proper. The first, is when an attack is imminent, as ascertained by premonitory signs; the second, when, without premonitory signs, we may be anticipating the attacks generally.

Another remedy of great moment, which may or may not be combined with the emetic, is a large dose of antacid, as twenty or thirty grains of the bicarbonate of potass.

Both emotion and gastric irritation are apt to induce excessive secretion of the hydrochloric acid in the stomach; and this, I suspect, is a frequent cause of attack. This cause is effectually removed by the antacid, which should be administered whenever any symptom, nervous or gastric, seems to call for it.

A rigid system of mental discipline, of diet, of gentle exercises, of attention to the alvine and the urinary secretions, and early hours, must be combined with these and any other remedies that may be deemed proper.

One of these, from which I think I have seen benefit, is the acetate of strychnia. The important question to determine is—what is the *tonic* dose of this remedy? I believe it has been generally given in a dose which is *stimulant*, and therefore injurious. From many trials, I am led to propose the fiftieth part of a grain, given thrice a day, as the proper dose as a tonic, and in cases of nervous exhaustion and susceptibility, and to propose the following formula:—

Strychninæ Acetatis, gr. j;  
Acidi Acetici, ℥xx;  
Alcoholis, ʒij;  
Aque, ʒvj. Ten drops for a dose.

In all cases of nervous exhaustion, whether the result of mental harass or sexual excess, the remedy appears of great promise.

ART. 12.—*Diagnosis of Catalepsy.* By Dr. EBENEZER MILLER.

(Edinburgh Med. and Surg. Journal, Oct. 1850.)

This disease has been confounded with hysteria, ecstasy, asphyxia, apoplexy,

and syncope, tetanus, and the state of death. The older physicians also mistook death from cold for catalepsy, and described cases of soldiers in a state of catalepsy riding into the camp on horseback, firmly seated like statues on their saddles. Here, death from intense cold formed a source of error.

Although our knowledge of the distinctive marks of the diseases liable to be mistaken for trance is now so great that no physician ought to fall into error, yet it is necessary to notice briefly the signs by which a correct diagnosis may be made.

1. From true ecstasy, catalepsy is distinguished by the patient labouring under the former disease being occupied in profound and sustained meditations. The faculty of thought, instead of being annihilated or suspended, is found exclusively directed towards the contemplation of a single object, entirely absorbed with one idea, with some imaginary pleasant object, the powers of imagination being augmented by an enthusiastic exultation. Again, there are no convulsive movements, no rigidity, partial or complete, of the muscles; and, above all, the limbs, if placed in any position by the physician, do not retain that position as they will in simple, and oftentimes in complicated, catalepsy.

2. Catalepsy is distinguished from hysteria by signs which have been noticed when speaking of the pathological nature of the disease. In hysteria the muscular system is oftentimes strongly convulsed, and motions are performed, but the most distinctive sign is the nonretention of any posture in which the patient may be placed.

3. Asphyxia is accompanied with suspension of the functions of respiration and circulation; the countenance is also ordinarily livid and swollen, the mucous membrane of the lips having a very dark hue.

4. Syncope is distinguished from catalepsy by the state of the muscular system, the limbs being extremely flexible,—and this appertains also in a great degree to asphyxia,—and by the general pallor of the countenance and surface of the body, consequent on the suspension of the heart's action.

5. Apoplexy is known from it by the stertorous or sonorous breathing, by the more or less profound lethargy, by the lax state of all the muscles of the body, and also by the co-existence of paralysis.

6. Although tetanus has been mistaken for catalepsy, in consequence of the tension and rigidity of the muscles, yet the fact that neither sensibility nor the intellectual functions are interfered with, should have prevented such a mistake from being committed.

7. Patients labouring under an intense and prolonged paroxysm of catalepsy have been supposed to be dead, and have been interred alive.

There are numerous cases of this kind on record, and many more where the individuals, after being laid in their coffins, have fortunately recovered from the attack before the period of interment. In such cases the respiration is insensible, and the heart's action is almost in abeyance; the surface of the body is nearly cold, and presents the pallor of death; and the articulations are stiff. Although it is no doubt a difficult task to distinguish this state of trance from the state of death, yet a careful examination of the body, and time, would lead to a correct diagnosis. The limbs after death are first lax, then stiff, and ultimately lax again. The stiffness of the limbs, known as the cadaveric rigidity, or *rigor mortis*, lasts for a longer or shorter time, according to circumstances; the sooner it supervenes, the shorter is its duration, and conversely. Now the stiffness of the limbs accompanying this intense form of trance, supervenes at once, and lasts as long as the paroxysm continues. This is consequently a valuable diagnostic sign.

Again, as the heart's action most certainly continues in a slight degree during the attack, the stethoscope may be used with advantage to detect the impulse and murmurs. The state of the eyes and the expression of the countenance, as well as the circumstance that the temperature of the body may be sustained in a slight degree, also furnish means by which a diagnosis may be made.

If pressure be made on the eyeball a few hours after death, the cornea becomes opaque; and this occurs invariably. But if the least spark of life remain, that effect would not be produced. This may, therefore, be said to be a sign at once distinguishing the state of trance from that of death,—one of ready

application, and thus rendering wholly unnecessary the carrying out of the suggestion that inhumation should never be proceeded with until the body has shown unmistakable signs of decomposition.

Catalepsy is a disease which is often feigned, sometimes for the purpose of exciting the sympathies of the charitable, occasionally by soldiers to procure their discharge from the army, often by females in good circumstances merely from a desire of creating an interest in their behalf, and by itinerating mesmeric impostors. To detect the imposition is oftentimes a matter of great difficulty, all the symptoms and signs of trance being exhibited with great truth. Such persons require to be carefully and vigilantly watched, and their character inquired into, when some inconsistencies will be noticed, and their imposition detected. Perhaps the inhalation of chloroform, where malingering is suspected and is necessary to be known, would be of great service. However slowly the individual breathed, the anæsthetic effect of this fluid would be produced, and then if he did not speak or move while the effect lasted, it is more than probable he would do so on recovery.

ART. 13.—*On Coup de Soleil.* By Drs. PEPPER and CONDIE.

(*Brit. and For. Med.-Chir. Rev.*, April 1851.)

Dr. Pepper believes that very erroneous notions respecting the nature of this affection prevail. Twenty patients have been admitted on account of it into the Philadelphia Hospital in seven years, of whom 7 recovered, 10 died, and 3 continued to suffer from chronic disease of the brain,—all these persons having been bled prior to admission. The prominent symptoms are violent convulsions, with muscular tremors in the intervals; a small, thready, irregular pulse, and dilated pupil. He has of late had the opportunity of witnessing four autopsies (from six to eight hours after death), at which there was found no congestion, or other unusual appearance of the brain; but, in all, the heart was pallid, flaccid, and softened, though the other muscles were florid and firm. Its lining membrane (and that of the blood-vessels), was of a dark purple colour; its cavities contained little blood, and no coagulum. Similar appearances are described by Louis as occurring in typhoid fever that proves rapidly fatal. Apoplexy may occasionally, as it is too generally supposed to do, result from insolation; but the cases usually met with in hot summers bear no resemblance to it, and require stimuli instead of depletion. In all the fatal cases Dr. Pepper has met with, death occurred in six hours, and in the others recovery was slow, the mind continuing long in a confused state, and the case sometimes passing into one of insanity. The accident usually occurs to persons laboriously employed, while exposed to the sun's rays. Muscular exertion and excessive heat combine to stimulate the heart to morbid activity; copious perspiration and fatigue ensue; the organ becomes exhausted, and a passive congestion of the capillaries of the body occurs. It is a disease of nervous exhaustion, to be carefully distinguished from the cerebral congestion occasionally arising from the same cause. Of 5 cases treated by stimuli, 3 recovered and 2 died.

Dr. Condie observed, that the cases thus described are of common occurrence during hot summers, in persons engaged in laborious occupations, while exposed to the sun, and especially in those of intemperate habits. There is, however, another class of cases due to the same cause, in which the head, and often the entire surface, is intensely hot, the eyes are injected, the pupils contracted, the pulse small, quick, and corded, and the tongue red and dry. Such patients are delirious, morose, or constantly agitated; and if the acute meningitis, upon which these symptoms depend, is not treated by depletion, they die comatose. —*Amer. Journ. of Med. Science*, vol. xxi. p. 183.

ART. 14.—*On the Pathology of Cerebral and Spinal Softenings, and the necessity for Microscopic Investigations to determine their Nature.*

By Dr. HUGHES BENNET.

(*Monthly Journal of Medical Science*, April 1851.)

The nature of cerebral and spinal softenings has been much disputed. Some

attribute them entirely to chronic or acute inflammation; others, while they acknowledge that some softenings are undoubtedly thus produced, are also of opinion, that they may occasionally depend upon other causes. Thus softening has been considered a lesion *sui generis*, similar to what occurs in ataxic fever (Recamier), to *gangrena senilis*, (Rostan, Abercromby,) to obliteration of the arteries, (Bright, Carswell,) or to a diminution of nutrition, (Delaberge, Monneret.) It has also been referred to post-mortem maceration, (Carswell, Paterson of Leith,) and is undoubtedly often produced by mechanical violence after death. The difficulty hitherto has been how to distinguish with precision one kind of softening from another.

From a careful analysis of 32 cases of softening of the nervous centres, which were published in 1842-3, it may be concluded that two varieties of softening undoubtedly occur. In the one, the products of inflammatory exudation may be detected; in the other, these are not present. It is necessary to determine, with exactitude, the distinguishing characters of these two kinds of softening, which may be denominated inflammatory and non-inflammatory softenings.

Inflammatory softening always contains numerous granules and granular corpuscles, which are more numerous according to the degree of softening. The nervous tubes and normal structures are always, when the softening is great, more or less broken up. The nature of inflammatory softening of the brain, like all such lesions, depends upon the exudation of blood plasma, the development of granular corpuscles, and the subsequent breaking down of the latter.

If chronic, it may be considered a fatty degeneration of the brain. When recent the serum poured out also assists in producing the softening.

In non-inflammatory softening, on the other hand, we find the cylindrical and varicose tubes of the part are rendered more soft and easily separable from each other. They have more or less lost their natural firmness and consistence, are readily torn across, the varicosities are easily enlarged by pressure, and, when separated or broken off, assume a globular form. The tubes also are more or less broken into fragments, and no exudation granules, masses, or granular corpuscles are to be detected.

The nature of non-inflammatory softening varies according to circumstances. It would seem to arise from four causes:—1st. From mechanical violence in exposing the nervous centres. 2d. From a mechanical breaking up of the nervous tissue, by hæmorrhagic extravasations, whether in mass or when infiltrated in small isolated points, constituting capillary apoplexy. 3d. From the mere imbibition of effused serum, which loosens the connexion between the nervous tubes, and diminishes the consistence of the nervous tissue. 4th. From the process of putrefaction.

As regards the difference supposed by some to exist between the softening in adults and that in more aged persons, the author fully agrees with M. Durand-Fardel, when he says, "Cerebral ramollissement is the same malady in old persons as in other adults; that it presents no other differences than the modifications which a variation in age always produces, connected only with the form, and not with the nature, of the lesion."

As for the opinion, that softening of the brain is a lesion *sui generis*, due to diminution of nutrition, to gangrene, or obstruction of arteries, the author's observation has convinced him, that all such explanations are hypothetical in the highest degree, and have no real existence.

The cases which the author has recorded also indicate that different symptoms were present in such cases as were inflammatory, and in such as were non-inflammatory. Thus, in 24 cases carefully examined and analyzed, in which cerebral softening was observed, granular corpuscles were present in 18, whilst in 6 no traces of these bodies could be found. On analysing the symptoms of these cases, we shall find a marked difference between those accompanying the one lesion or the other. Thus in the cases where *only* inflammatory softening was present, well-marked symptoms invariably existed, such as loss of consciousness, preceded or followed by dullness of intellect, contraction, and rigidity of the extremities, or paralysis. On the other hand, in the 6 cases of non-inflammatory softening, there was no paralysis or contraction, and no dulness or disturbance of the intellect. Again, in the four cases where both lesions were

present, symptoms could always be observed in the sides opposite the inflammatory softening, while none existed opposite the non-inflammatory. An analysis of these 24 cases, therefore, leads to the conclusion, that the two kinds of softening we have endeavoured to establish are alike distinguishable, both by their intimate structure, and by the symptoms accompanying them during life.

Now, all practical men agree in considering it a matter of extreme difficulty to reconcile, with any certainty, the morbid appearances found in the brain, with the symptoms previously observed. The future microscopic examination of the softening may serve to prevent much of the error that has hitherto been committed. For instance, softening of the fornix, septum lucidum, and central parts of the brain, may exist in two cases. To the naked eye they may be in every respect identical, and yet the microscope enables us to determine that the one contains granular corpuscles, whilst, in the other, not one of these bodies is to be found. It becomes evident, then, that previous to this distinction having been made, two distinct lesions were confounded together; and that a different train of symptoms should, under such circumstances, be occasioned, is only to be expected. Again, it has frequently excited surprise, that, notwithstanding the existence of well-marked symptoms of softening, nothing was to be discovered after death. Now, the author has demonstrated in several instances that, although to the naked sight no morbid lesion was apparent, still portions of brain might contain the same granular corpuscles as are to be seen in more apparent lesions; and that by considering such parts diseased, all the symptoms might be explained according to the pathological laws he has previously explained. By excluding these sources of error, therefore, and by being enabled at once to distinguish the lesion dependent on inflammation from others which simulate it, we shall be enabled to obtain more exact data for future investigations. From the observations recorded, however, the two following propositions may, he thinks, be established:—

1st. *That pathologists have hitherto confounded softening dependent on inflammation, with softening occasioned by post-mortem changes or mechanical violence.* 2d. *That notwithstanding the most anxious search, and the existence during life of the most decided symptoms of softening, inflammation, though really present, has escaped observation.*

With respect to the first proposition, it may be observed, that in many cases where no symptoms were present during life, extensive softening of the brain has been found after death. This is a well-known fact, and is one which tends, in no small degree, to throw confusion on the pathology of nervous diseases. Thus—in one case there was extensive softening of the central portion of the brain, corpora striata, and optic thalami, which, however, contained no granular corpuscles. The symptoms were sudden insensibility and convulsions, which evidently depended on a capillary apoplexy that was also present. No paralysis or contraction existed. Four other cases were recorded, with more or less softening of the brain, without head symptoms, and without granular corpuscles in the softened portions.

Now in all these five cases there was an extensive softening, which it was impossible for any one to distinguish positively, by unaided sight, from inflammatory softening. In neither did granular corpuscles exist, and in neither did those symptoms occur which are peculiar to similar softenings produced by inflammation.

In addition to these five cases there were four others, where, conjoined with an inflammatory softening producing particular symptoms, there was also non-inflammatory softening, occasioning no symptoms whatever. The circumstances attendant on these nine cases, therefore, must convince us that softenings produced mechanically, or by post-mortem changes, have frequently been mistaken for those dependent on inflammation, and must necessarily be so, so long as unaided sight is made the sole means of forming a judgment with respect to their nature.

A perusal of these cases must satisfy any one that pathologists have hitherto been confounding two distinct lesions, viz., a softening dependent on inflammation, and a softening dependent on mechanical or other causes.

The second proposition, that softening or inflammation, though present, has frequently escaped observation, is clearly established by the following facts:—

A man had paralysis, with complete resolution of the limbs on the right side, and intense rigidity of them on the left. Death occurred in six hours. On dissection, a large coagulum of blood was found effused into the left hemisphere, thus explaining the paralysis on the right side. In the right hemisphere an old apoplectic cyst was found, and a number of small cavities, described by Dr. Sims as chronic softening undergoing a cure. Here, then, there was nothing acute—nothing to explain the intense rigidity. A microscopic demonstration demonstrated that their cavities contained numerous granular corpuscles and granules, thus proving the existence of inflammation on the right side of the brain, and explaining the rigidity on the left side of the body.

Another well-remarked case was that of a man who entered the Infirmary, under Dr. Paterson, in 1842. All the symptoms of acute softening were present; paralysis on the left side, including rigidity and contraction of the left arm, dulness of intellect, and tonic spasms of the muscles of the mouth and neck. The right side was also affected in a slighter degree. As the case excited considerable interest, great care was taken in examining the brain. When the lateral ventricles were opened, it became a question whether the right corpus striatum was softened. Several persons applied their fingers, and endeavoured to ascertain the point. As the manual examination proceeded, the normal consistence of the part diminished, until at length it presented all the appearance of pulsatious softening. In this state it was shown to Dr. Paterson, who naturally enough considered it to be the result of disease. The author differed from him in opinion, first, because he had carefully observed the gradual increase of the softening in the manner alluded to; and secondly, because disease of the corpus striatum, in one side of the brain, could not have explained the well-marked symptoms which existed on both sides of the body. When the pons varolii was bisected, Dr. Peacock, who conducted the examination, conceived it to be softened; others who examined it could perceive no difference in the texture; its colour and consistence were unchanged. Reasoning from the symptoms, the lesion was very likely to exist. But how, it was argued, could a judgment be formed; we ought to reason from facts, not theories? Here, then, was an evident lesion of the corpus striatum, which explained nothing, and a problematical lesion of the pons varolii, which, however, did it exist, would satisfactorily account for the symptoms. In this state of uncertainty the microscope was sent for; and the author demonstrated, and made evident to Drs. Paterson, Peacock, and all the students present, that the corpus striatum contained no granular corpuscles, whilst in the pons varolii they were very abundant. He has also endeavoured to describe what took place on this occasion, from which it must be evident that had not the microscope been appealed to, the right corpus striatum would have been pronounced softened, whilst the real lesion in the pons varolii might have escaped observation. Under such circumstances this case would have added another to the inexplicable observations with which the records of nervous diseases abound.

What renders these cases, and several others the author could relate, so remarkable and satisfactory is, that they are not instances where the dissection was performed in a hurried manner, and by incompetent persons. On the contrary, from the particular symptoms connected with them during life, the post-mortem examination was in all conducted with extreme care. The physician who had charge of the case was present. The examinations were witnessed or conducted by myself, in the presence of clerks and numerous students, and the author says, that they were all in doubt until the microscope cleared up the difficulty. *These causes, therefore, sufficiently demonstrate that the naked sight is positively unable to detect lesions, even although they are directly indicated by the symptoms, and carefully looked for by experienced morbid anatomists.*

If, then, the two propositions formerly stated have been satisfactorily proved, and it is agreed that pathologists have been confounding inflammatory with non-inflammatory softening, and overlooking the former, although undoubtedly present, it must be evident that many of the contradictions which have existed in connexion with the pathology of nervous diseases, may be accounted for. It must also be clear that no confidence can be placed in the analysis of cases, however numerous, when the sources of error now indicated have not been carefully excluded.

## SECT. III.—DISEASES OF RESPIRATORY SYSTEM.

ART. 15.—*Differential Diagnosis of Asthma and other Respiratory Affections.*

By Dr. BERGSON.

*(Dublin Quarterly Journal, Nov. 1850.)*

We take the following from a review of a work on Asthma, by Dr. Bergson, entitled "*Das Krampfartige Asthma Der Erwachsenen.*"

## 1. DIAGNOSIS BETWEEN ASTHMA AND ANGINA PECTORIS.

*Symptoms in Common.*—Sudden accessions of dyspnœa. Countenance anxious, eyes prominent, cheeks colourless, pulse weak.

*Distinguished Symptoms.**Angina Pectoris.*

Distress overpowering, feeling of impending death. Anxiety indescribable under the sternum.

Distress does not impede respiration.

Paroxysms come on usually in the day time, while the patient is walking or standing.

Respiratory movements not visibly disturbed. No peculiar dyspnœa; patient able, by a strong effort, to take a deep inspiration.

Painful sensation radiating, especially to the left arm.

Paroxysm terminates with eructations or yawning.

*Asthma.*

Distress not so intense and general over the whole chest.

Respiration impeded, producing a feeling of suffocation.

Paroxysms almost always come on at night.

Respiratory movements irregular and laborious; thorax impelled up and down. Patient unable to take a deep inspiration.

No such phenomena.

Paroxysm terminates with copious expectoration.

## 2. BETWEEN ASTHMA AND OEDEMA OF THE GLOTTIS.

*Edema Glottidis.*

Inspiration produces no painful sensation in the chest, but only in the larynx, to which the patient refers his difficulty of breathing.

Inspiration accompanied by wheezing.

Expiration uninterrupted.

Sensations of foreign body in the larynx.

Attack lasts for a few minutes.

Attack returns after an interval of a few minutes.

Cough dry and ringing.

*Asthma.*

Impediment to respiration, not in the larynx.

Inspiration does not produce any sound in the larynx.

Expiration difficult.

No such feeling.

Attack of many hours' duration.

Attack returns in the course of 24 hours.

Cough moist.

ART. 16.—*On the Treatment of a Particular form of Aphonia by the Inhalation of a Stimulating Vapour.* By Dr. PANCOAST.*(Transactions of the American Medical Association, vol. viii. p. 135.)*

The form of aphonia here alluded to is that which many practitioners must have met with, following an ordinary cold, without leaving any perceptible or-



ganic lesion in the pulmonary apparatus. The voice is reduced to a faint, hoarse whisper, distinguishable only at the distance of a few feet, and a continued attempt to talk, though it gives no pain, becomes quickly attended with a feeling of fatigue as though there was some obstruction to the passage of air through the larynx. In breathing merely, there is little or no difficulty in these cases, as the individuals are capable of undergoing considerable exertion without very unusual signs of fatigue.

The difficulty has appeared to the author to be in the paralysed condition of the muscles of the larynx, whose business it is to dilate the rima glottidis during the act of articulation.

Having had an opportunity several years ago to observe these movements of the vocal chords in a patient in the Philadelphia Hospital, who had made an abortive attempt at suicide, and was left with a cicatrized wound opening into the ventricles of the larynx, the author watched with great interest the play of these vocal chords, which were fully exposed to view, and was astonished at their frequent, varied, and extensive movements. The two chords would sometimes be drawn widely asunder, so as to leave a clear gap of full half an inch in width their whole length, giving a fuller tone to the voice; at other times, as in whispering, they would nearly close, leaving but a narrow fissure. In the ordinary manner of speaking, each chord would be moved outwards and inwards with great rapidity, and the two would be several times brought tightly together in the utterance of a single word or many syllables. There seemed, however, to be no regular law of motion, either to Dr. Dunglison or the author, who observed the case with as much care as the irritable and somewhat insane patient would allow, in the utterance of any particular tones or words.

From the evidence thus obtained in regard to the motion of the vocal chords, the author was led to infer that this form of aphonia arose from a partial paralysis of the intrinsic muscles of the larynx, and that to cure it, it would be necessary to stimulate them into action.

Dr. Pancoast's first case occurred about eight years ago. The patient was a healthy young country girl, who had contracted a severe cold by remaining in a damp spring-house. The aphonia had lasted for six months, resisting every sort of treatment.

The author placed her upon the inhalation of chlorine, with the following simple apparatus:

He took the ordinary tubulated glass retort of the chemist, with a glass funnel having some filtering paper at the bottom. In the bowl of the retort he placed a solution of the chloride of soda or lime. Into the glass funnel was put a weak solution of muriatic acid in water. As the dilute acid fell drop by drop into the bowl of the retort, chlorine was very gradually liberated, and breathed from the end of the instrument. The inhalation was continued for some minutes, and repeated two or three times a day, according to the degree of irritation it produced in the throat and larynx. From the first trial, the patient's voice improved, and in three days had become very nearly as strong as ever. A couple of months after her return to the country, another cold was followed by a similar case of aphonia. The patient again breathed the dilute chlorine vapour for a few times, and had her voice restored.

During the last month, Dr. Pancoast has treated Dr. Throop, an eminent practitioner, for the same affection, by the chlorine inhalation. His voice had been lost for about seven months, so that he was unable to practise his profession. Besides exhausting the more ordinary means resorted to in these cases, he had made, without any good effect, repeated trials of a strong lunar caustic solution applied with a sponge to the glottis.

His voice began to improve from the first trial of the chlorine. The improvement was steady, but more slow than in the case above detailed, a week or ten days elapsing before his voice was restored to its natural strength.

Some care is unquestionably required that the acid solution should not be allowed to drop too freely on the salt in the bowl in the retort, so as to develop the gas too freely. But the patient has the means of protecting himself against too strong an impression of the chlorine on the glottis by diluting it with air drawn in through the nostrils,—a measure to which he would instinctively resort.

The author presumes that the chlorine acts merely as a local stimulant, and that iodine or any other exciting vapour would effect similar results.

ART. 17.—*On Gangrene of the Lung.* By FRANCIS GEORGE PROBART, M.D.

(*Transactions of the Provincial Medical and Surgical Association*, vol. xvii. p. 351.)

[Dr. Probart has had an opportunity of treating nine cases of gangrene of the lung, and in every instance successfully, by an undeviating practice of much simplicity. He narrates two cases, in the first of which the treatment alluded to suggested itself to his mind. Dr. Probart observes:]

I was called to visit a gentleman of distinction whom I found labouring under partial gangrene of the right lung. It had been treated as bronchitis by the medical gentleman in attendance, and who was summoned, as well as myself, in consequence of the symptoms having become seriously aggravated. Bleeding from the arm had been practised without benefit to the dyspnoea and cough; these symptoms, on the contrary had rather increased. The pulse, as I think is generally the case in this disease, was quick and feeble; the surface of ordinary temperature; countenance pale and ghastly; tongue moist. The cough occurred in paroxysms of painful severity, when, with much labour, a small quantity of pinkish and intolerably fetid expectoration was raised. Auscultation, before a paroxysm, discovered a mucous rale like that of bronchitis, over a considerable space of the right side of the chest, while immediately after the cough little was to be heard except on a circumscribed spot under the scapula of not more than two inches in diameter, when a subdued crepitus was audible.

My treatment of this case for three weeks was confined to tonic palliative measures, and the attempt by nourishment to sustain the patient's strength, which hourly diminished, in spite of free use of animal food, and as much as a bottle and a half of port-wine in the day.

[Dr. Probart informs us that a consultation was held with a London physician, but no advantage accrued therefrom. A few days after, he accidentally discovered that his patient had entirely abstained from the use of salt for five years. This fact immediately struck him as having an important bearing on the disease, and he accordingly lost no time in administering salt medicinally. He gave two scruples of salt, ten grains of chlorate of potass in decoct. sarsæ, and at the same time ordered inhalation of chlorine.]

In two or three days there was an improvement; and by the end of the week this was so apparent as not to be mistaken. So rapid in fact was his progress in recovery, that in a few days he went out in his carriage, and ultimately resumed his duties as a clergyman and magistrate. Although this gentleman drank a bottle and a half of port-wine in twenty-four hours, its effects, as a stimulant, were not appreciable until he commenced with the salt.

The subject of the second case was a farmer, æt. 21, addicted to field sports and other active pursuits. His case, as well as the others, presented all the prominent phenomena of the foregoing; but it gave me more anxiety from the want of appetite and intolerance of the saline treatment. Confident, however, in the measure, and seeing no prospect of other than a fatal termination without it, I essayed to exhibit the chloride of sodium in effervescence, by means of carbonate of soda and hydrochloric acid, and with marked advantage; but as we were shortly obliged to abandon this, my only resource was its external application. This was accomplished by means of strong salt-water baths, and rubbing the skin with towels soaked in brine and dried. The expedient answered beyond my expectation, for decided improvement immediately followed. The patient finally recovered. I must observe that he continued at intervals to take very small doses of chloride, with the chlorate of potass.

[We insert these cases nearly as they are narrated by an acute observer and sound practical physician; but we are tempted to inquire whether the benefit is not attributable to the chlorate of potass rather than to the common salt. We incline to the opinion that it is so, for the reason that the known action of salt, in large quantities (as formerly on board ship), is to induce a dissolved state of blood likely to favour rather than oppose gangrene, while on the other hand chlorate of potash is equally known as an energetic remedy in diseases of an

adynamic type, and especially in one form of gangrene, noma or cancrum oris. Which ever be the correct view, Dr. Probat's paper must have the credit of offering an important therapeutical problem, which future observations may readily solve.—Ed. H.-Y. A.]

ART. 18.—*Clinical Remarks on the Practice of Auscultation.* By Dr. HUGHES BENNETT.

(*Edinburgh Monthly Journal*, Nov. 1850.)

[Although in general we abstain from giving extracts from lectures intended for students, yet the peculiar lucidity of the present remarks, and the knowledge that auscultation is even yet not so fully practised as it should be, induces us to depart from the rule.]

*Special Rules to be followed during Auscultation of the Pulmonary Organs.*—1. In listening to the sounds produced by the action of the lungs, we should pay attention to three things:—1st. The natural respiration. 2d. The forced or exaggerated respiration. 3d. The vocal resonance. For this purpose, having listened to the sounds during ordinary breathing, we direct the patient to take a deep breath, and then, still listening, we ask him a question, and during his reply judge of the vocal resonance.

2. You should commence the examination immediately under the centre of one clavicle,—and having ascertained the nature of the sounds and vocal resonance there, you should immediately listen in exactly the corresponding spot on the opposite side. The examination should be continued alternately from one side to the other, in corresponding places, until the whole anterior surface of the chest is explored. The posterior surface is then to be examined in like manner.

3. When, in the course of the examination, anything different from the normal condition is discovered at a particular place, that place and the parts adjacent should be made the subject of special examination, until all the facts regarding the lesion be ascertained.

4. It is occasionally useful to tell the patient to cough, in which case we are enabled to judge:—1st, of forced inspiration, as it precedes the cough; and 2d, of the resonance which the cough itself occasions.

*Of the sounds elicited by the Pulmonary Organs in health and in disease.*—I am anxious to impress upon you, that the sounds which may be heard in the lungs are like nothing but themselves. Students are too apt to take up erroneous notions from reading on this subject, and, instead of listening to the sound actually produced, fatigue themselves in a vain endeavour to hear something like the crackling of salt, the rubbing of hair, foaming of beer, or other noises to which these sounds have been likened. Preconceived notions frequently oppose themselves to learning the truth, and have to be got rid of before the real state of matters can be ascertained. Hence the great importance of obtaining your first impressions of the sounds to be heard by auscultation, not from books or lectures, but from the living body itself.

If you listen through your stethoscope, placed over the larynx and trachea of a healthy man, you will hear two noises,—one accompanying the act of inspiration, and the other that of expiration. These are called the *laryngeal and tracheal sounds or murmurs*. If you next place your stethoscope a little to the right or left of the manubrium of the sternum, you will hear the same sounds diminished in intensity. These are the *bronchial sounds or murmurs*. If now you listen under and outside the nipple on the right side, or posteriorly over the inferior lobe of either lung, you will hear two very fine murmurs. That accompanying the inspiration is much more distinct than that accompanying the expiration. By some, on account of its excessive fineness, it is stated that there is no expiratory murmur in health; but this is incorrect. These sounds, then, are the *vesicular respiratory murmurs*. All these sounds become exaggerated during forced respiration, but in a state of health they never lose their soft character. Again, if you listen in the same places, whilst the individual speaks, you will hear a peculiar resonance of the voice, which has been called, in the first situation, *pectoriloquy*; in the second, *bronchophony*; while in the third, it is scarcely audible. A knowledge of these circumstances, and a capability of appreciating these sounds,

are necessary preliminary steps to the right comprehension and detection of the murmurs which may be heard during disease.

I have to suppose, then, that you have made your ears familiar with these sounds, and that you are acquainted with the present state of theory regarding their formation. This last may be stated in a very few words to be, that the respiratory murmurs are occasioned by the vibration of the tubes through which the air rushes, according to well-known acoustic principles. Hence they are loudest in the trachea, finer in the large bronchi, and finest in their ultimate ramifications. The vocal resonance, on the other hand, originates in the larynx; and diminishes or increases:—1st, according to the distance of any point from the source of the sound; and 2d, according to the power which the textures have in propagating it.

If now you examine, in succession, any six of the cases in the wards which are labouring under well-marked pulmonary diseases, you will have no difficulty in recognising that all the sounds you hear may be classified into two divisions:—1st, alterations of the natural sounds; 2d, new or abnormal sounds, never heard during health.

**I. Alterations of the Natural Sounds.**—All the sounds of which we have spoken, and which can be heard in the lungs during health, may, in certain diseased conditions, be increased, diminished, or absent; their character or condition may be changed; and, with regard to the respiratory murmurs, they may present alterations in rhythm, or duration with respect to each other.

**Alterations in Intensity.**—Some persons have naturally louder respiratory murmurs than others; if this occur uniformly on both sides, it is a healthy condition. Occasionally, however, the sounds are evidently stronger in one place, or on one side (*puerile respiration*), generally indicating increased action of the lung, supplementary to diminished action in some other part. In the same manner, there may be feeble respiration simply from diminished action, as in feeble or old persons; but it may also be occasioned by pleurodynia, obstructions in the larynx, trachea, or bronchi,—pleurisy, or pulmonary emphysema, or exudations filling up a greater or lesser number of the air-cells and smaller tubes as in pneumonia, phthisis, &c. Complete absence of respiration occurs when there is extensive pleuritic effusion or hydrothorax.

**Alterations in Character.**—The various respiratory murmurs may, in certain conditions of the lung, assume a peculiar harshness, which, to the ear of the practised auscultator, is a valuable sign, indicative of altered texture. Thus in incipient phthisis the vesicular murmur under the clavicle is often *rude* or *harsh*. In pneumonia the bronchial respiratory murmur presents a similar character. When ulceration exists, it becomes what is called *cavernous* (hoarse or blowing); and in certain cases of pneumothorax with pulmonary fistula, it assumes an *amphoric* character.

**Alterations in Position.**—It frequently happens that the sounds which are natural to certain parts of the chest, are heard distinctly where in health they are never detected. Thus, in pneumonia, *bronchial* or *tubular breathing*, as it is sometimes called, may be evident, where only a vesicular murmur ought to exist. This is often well marked with regard to the vocal resonance, as certain lesions, which occasion condensation or ulceration, will enable us to hear in parts where, under ordinary circumstances, no voice can be heard, either bronchophony or pectoriloquy.

**Alterations in Rhythm.**—In health, the inspiration is usually three times as long as the expiration. In certain diseased conditions this relation is altered, or even inverted. In incipient phthisis we often find the expiration unnaturally prolonged. In chronic bronchitis and emphysema it is three or four times longer than the inspiration.

**II. New or Abnormal Sounds.**—These are of three kinds; 1st, rubbing or friction noises; 2d, moist rattles; 3d, vibrating murmurs.

1. **Rubbing or Friction Noises** are caused in the pulmonary apparatus by some morbid change in the pleuræ, whereby, instead of sliding noiselessly on one another, they emit a rubbing sound. This may be so fine as to resemble the rustling of the softest silk, or so coarse as to sound like the creaking of a saddle, grating, rasping, &c.; and between these two extremes you may have every

intermediate shade of friction noise. This variation in sound is dependent on the nature of the alteration which the pleuræ have undergone. If covered with a softened thin exudation, the murmur will be soft; if it be tougher and thicker, the sound will be louder; if hard, dense, and rough, it will assume a creaking, harsh, or grating character, &c., &c. These noises are heard in the various forms of pleurisy.

2. *Moist Rattles* are produced by bubbles of air traversing or breaking in a somewhat viscous fluid. This may occur in the bronchi, when they contain liquid exudation, mucus, or pus, or in ulcers of various sizes. They may be so fine as to be scarcely audible (when they have been called *crepitating*), or so coarse as to resemble gurgling or splashing, when they have received the name of *cavernous*. Here, again, between these two extremes, we may have every kind of gradation, to which auscultators have attached names, such as *mucous*, *sub-mucous*, *subcrepitating*, &c. &c. With these names you need not trouble yourselves; all that is important for you to recognise is that the sound be *moist*, and you will easily recognise that the rattles are coarse or large in proportion to the size of the tubes or ulcers in which they are produced. These rattles may be heard in pneumonia, phthisis pulmonalis, bronchitis, pulmonary apoplexy, &c. &c.

3. *Dry Vibrating Murmurs* arise when the air-tubes are obstructed, constricted, or lose their elasticity and become enlarged, whereby the vibrations into which they are thrown by the column of air, produce sounds or tones of an abnormal character. Hence murmurs may be occasioned of a fine squeaking (*sibilous murmur*), or of a hoarse snoring character (*sonorous murmur*), and between the two extremes there may be all kinds of variations, to which ingenious people have applied names. These only cause confusion; all that is necessary being to ascertain that the murmur is *dry*, and you will readily understand that the fineness or coarseness of the sound will depend on the calibre of the tube or cavity thrown into vibrations. They are usually heard in cases of bronchitis and emphysema. Occasionally they present a blowing character, as when ulcers are dry, which often occurs in phthisis.

The *vocal resonance*, besides undergoing the changes already noticed in intensity, character, and position, may give rise to abnormal sounds. Occasionally it presents a soft reverberating or trembling noise, like the bleating of a goat (*ægophony*). The value of this sign, as indicative of pleurisy, was much overrated by Laennec. At present it is little esteemed. Sometimes the resonance gives rise to a metallic noise, like dropping a shot into a large metallic basin, or the note produced by rubbing a wet finger round the edge of a tumbler or glass vessel. This is often best heard immediately after a cough, in cases of pneumothorax, or large tubercular excavations of the lung. *Ægophony* is supposed to be produced when a thin layer of serous fluid between the pleuræ is thrown into vibrations. The cause of metallic tinkling has created great discussion; but Drs. Spittal and Skoda have shown the existence of air in a cavity, which is thrown into vibrations in the necessary condition.

Such, then, are the principal sounds which may be heard by auscultation of the pulmonary organs in health and during disease. Many writers have endeavoured to point out their diagnostic importance, and drawn up rules which have always appeared to me much too arbitrary. Indeed, in so far as the education of medical students is concerned, I have long been persuaded that the study of these rules has retarded their powers of diagnosis, and afterwards led to dangerous errors in practice. I know of no dogma, for instance, more mischievous than the one which asserts a crepitating (that is, a fine moist) rattle to be pathognomonic of pneumonia, because it is just as common in phthisis, and is frequently heard in various other lesions of the pulmonary organs. Hence we should regard a crepitating rattle, not as indicative of this or that so-called disease, but simply of fluid in the smaller air-passages; increased resonance of the voice, as indicating hollow spaces with vibrating rales, or increased induration of the pulmonary textures, and not as diagnostic of phthisis, pneumonia, &c., and so on. I wish, then, strongly to impress upon you,—

1st. That the different sounds are only indicative of certain physical conditions of the lung, and in themselves bear no fixed relation to the so-called diseases of systematic writers.

2d. No single acoustic sign, or combination of signs, is invariably pathogno-

monia of any certain pathological state,—and conversely, there is no pathological state which is invariably accompanied by any series of physical signs.

3d. Auscultation is only one of the means whereby we can arrive at a just diagnosis, and should never be depended on alone.

*Special Rules to be followed during Auscultation of the Circulatory Organs.*—1. In listening to the sounds produced by the action of the heart and arteries, we should pay attention—1st, to the impulse; 2d, the character and rhythm of the sounds; 3d, the place where they are heard loudest, and the direction in which they are propagated.

2. You should commence the examination by feeling for the spot where the apex of the heart beats against the walls of the chest, which will enable you to judge of the impulse. This ascertained, place your stethoscope immediately over it, and listen to the sounds. Then place the instrument above, and a little to the inside of, the nipple, near the margin of the sternum, and listen to the sounds there. In the one situation you will hear the first or systolic sound, in the other the second or diastolic sound, loudest.

3. If anything different from the normal condition be discovered in either one or the other position, or in both, they should be again carefully examined, and by moving the stethoscope below and round the apex of the heart, or above, in the course of the aortic arch or carotids, on the right and left side, &c. &c., it should be ascertained at what point, or over what space, the abnormal sounds are heard loudest, and whether they be or be not propagated in the course of the large vessels. Occasionally listening over the back and in the course of the descending aorta may be useful.

4. When, during the above examination, we discover a new source of impulse and of sound in one of the large vessels, this must be especially examined, the limits of such impulse and sound carefully ascertained,—whether they be or be not synchronous with those originating in the heart,—their direction, &c.

5. Under ordinary circumstances, the respiratory do not interfere with the detection of the cardiac sounds; but where the former are very loud and the latter indistinct, it is useful to direct the individual to hold his breath for a few moments. Sometimes the impulse and sounds of the heart are heard better by directing the patient to lean forward; they may also, if necessary, be exaggerated and rendered more distinct by directing him to walk up and down quickly, or make some exertion for a short time.

*Of the Sounds elicited by the Circulatory Organs in Health and Disease.*—On placing your ear over the cardiac region in a healthy person, you will feel a beating, and hear two sounds, which have been likened to the tic-tac of a watch, but to which they bear no resemblance. They may be imitated, however, very nearly, as pointed out by Dr. Williams, by pronouncing in succession the syllables *lupp*, *dupp*. The first of these sounds, which is dull, deep, and more prolonged than the second, coincides with the shock of the apex of the heart against the thorax, and immediately precedes the radial pulse; it has its maximum intensity over the apex of the heart,—below and somewhat to the outside of the nipple. The second sound, which is sharper, shorter, and more superficial, has its maximum intensity nearly on a level with the third rib, and a little above and to the right of the nipple—near the left edge of the sternum. These sounds, therefore, in addition to the terms first and second, have also been called inferior and superior, long and short, dull and sharp, systolic and diastolic,—all which expressions, so far as giving a name is concerned, are synonymous.

The two sounds are repeated in couples, which, if we commence with the first one, follow each other with their intervening pauses: thus—1st, there is the long dull sound coinciding with the shock of the heart; 2d, there is a short pause; 3d, the short sharp sound; and 4th, a longer pause,—all which correspond with one pulsation. In figures, the duration of these sounds and pauses by some have been represented thus,—the first sound occupies a third, the short pause a sixth, the second sound a sixth, and the long pause a third. Others have divided the whole period into four parts; of which the first two are occupied by the first sound, the third by the second sound, and the fourth by the pause. The duration, as well as the loudness, of the sounds, however, are very variable even in health, and are influenced by the force and rapidity of the heart's action,

individual peculiarity, and form of the thorax. Their extent also differs greatly. They are generally distinctly heard at the præcordial region, and diminish in proportion as we withdraw the ear from it. They are less audible anteriorly on the right side, and still less so posteriorly on the left side. On the right side posteriorly they cannot be heard. Their tone also varies in different persons; but in health they are free from a harsh or blowing character.

Great diversity of opinion has existed regarding the causes of these sounds,—all of which you will of course have heard discussed before coming here. You must never forget, however, the cardiac actions which coincide with them; for our reasoning from any changes we may detect will entirely depend upon our knowledge of these. We may consider, then, that there coincide with the first sound;—1st. The impulse, or striking of the apex against the thoracic walls. 2d. Contraction of the ventricles. 3d. Rushing of the blood through the aortic orifices. 4th. Flapping together of the auriculo-ventricular valves. There coincide with the second sound;—1st. Rushing of the blood through the auriculo-ventricular valves. 2d. Flapping together of the aortic valves. Contraction of the auricles immediately precedes that of the ventricles. The result of numerous pathological observations, and of many experiments, is that, in health, the first sound is produced by the combined action of the auriculo-ventricular valves of the ventricle, and of the rushing of the blood, which sound is augmented in intensity by the impulsion of the heart's apex against the thorax; whereas the second sound is caused only by the flapping together of the sigmoid valves.

With the cardiac, as with the respiratory sounds, the alterations which take place during disease may be divided into:—1st. Modifications of the sounds heard in health. 2d. New or abnormal sounds.

1. *Modifications of the Healthy Sounds.*—These refer to the variations the healthy sounds present in their seat, intensity, extent, character, and rhythm.

*Seat.*—The sounds may be heard at their maximum intensity *lower* than at the points previously indicated, as in cases of dilated hypertrophy of the left ventricle, enlargement of the auricles, or of tumours at the base depressing the organ. They may be *higher*, owing to any kind of abdominal swelling pushing up the diaphragm. They may be more on *one side* or the other, in cases where the heart is pushed laterally by effusions of air or fluid in a pleural cavity. Various other circumstances may also modify their natural position, such as tumours in the anterior or posterior mediastinum, aneurisms of the large vessels, adhesions of the pericardium, deformity in the bones of the chest, &c. &c.

*Intensity and Extent.*—These are *diminished* in cases where the heart is atrophied or softened; when there is pericardial effusion, concentric hypertrophy of the left ventricle, or emphysema at the anterior border of the left lung. They are *increased* in cases of dilated hypertrophy, of nervous palpitations, and when neighbouring portions of the lung are indurated, especially in certain cases of pneumonia and phthisis pulmonalis.

*Character.*—The sounds become *clearer* or *duller* than usual, according as the walls of the heart are thinner or thicker. Occasionally they sound *muffled* in cases of hypertrophy or softening of the muscular walls. Not unfrequently there is a certain degree of *roughness*, which is difficult to determine as being healthy or morbid. Occasionally it ushers in more decided changes; at others, continues for years without alteration.

*Rhythm or Time.*—I need not say that the frequency of the pulsations differs greatly in numerous diseases altogether independent of any special disease in the heart. In certain cardiac affections, however, the beats are *intermittent*, in others *irregular*—that is, they succeed each other at unexpected intervals. The *number* of the sounds also varies. Sometimes only one can be distinguished, it being so prolonged as to mask the other. Occasionally three or even four sounds may be heard, depending either on the reduplication in the action of the valves when diseased, or on want of synchronism between the two sides of the heart. Not unfrequently the increased and irregular movements of the organ, combined with the sounds, are of such a character as to receive the name of *tumultuous*.

II. *New or Abnormal Sounds.*—These are of two kinds: 1st. Friction murmurs. 2d. Blowing or vibrating murmurs. Dr. Latham has called them *exocardial*

and *endocardial*. I am in the habit of denominating them *pericardial* and *valvular*.

*Pericardial or Friction Murmurs*.—These murmurs are the same in character, and originate from the same causes, as the friction noises connected with the pulmonary organs. It is only necessary to observe, that occasionally they are so soft as closely to resemble blowing murmurs, from which they are only to be distinguished by their superficial character and limited extent.

*Valvular or Vibrating Murmurs*.—These murmurs vary greatly in character,—some being so soft as to resemble the passage of the gentlest wind; others are like the blowing or puff from the nozzle of a bellows (*bellows-murmurs*;) whilst others are harsher, resembling the noise produced by *grating, filing, sawing, &c.* They are all occasioned, however, by diseases interfering with the functions of the valves. Sometimes these do not close, and the blood consequently regurgitates through them; at others, whilst this is the case, they are constricted, indurated, roughened, and even calcareous,—whence the harsher sounds. They may be single or double, and have their origin either in the auriculo-ventricular or arterial valves, or in both at once,—the detection of which constitutes the diagnosis of the special diseases of the organ. Occasionally these sounds resemble *musical notes*, more or less resembling the cooing of a dove, singing or twittering of certain small birds, whistling, tinkling, &c., &c. These depend either upon the excessive narrowing of the orifices, or upon any causes which induce vibrations of solids in the current of blood,—as when there are perforations in the valves, irregularities of their margins, string-like or other shaped exudations on their surface, &c., &c.

*Auscultation of the large Vessels*.—On listening to the stethoscope placed over the arteries in the neighbourhood of the heart, we hear the same sounds as are produced at the sigmoid valves, propagated along its course, but more indistinct as we remove the instrument from the base of the heart. Those which are more distant have only one sound, which is synchronous with their impulse and their dilatation. This sound is of a dull character, but in health always soft.

In the various conditions of disease we have a single or double bellows-sound, or it may be harsh, grating, rasping, &c. In the first place, you must ascertain whether any of these sounds are propagated along the artery from the heart, which you will know by listening over its course from that organ, and observing whether they increase as you proceed towards it. If the sound have an independent origin, it may originate from disease of the internal surface of the artery, when it will be harsh in proportion to the roughness; from stricture of, or pressure on the vessel, or from its dilation. Generally speaking, the more dilated and superficially seated the vessel is, the sharper is the sound. Sometimes there is a double murmur in the course of a vessel, having an undoubted independent origin. This is most common in cases where there is an aneurismal pouch, into which the blood passes in and out through an opening narrower than the swelling itself. Occasionally one or both such murmurs may possess somewhat of a metallic ringing, or even musical character, when the margins of the opening are probably tense and thrown into peculiar vibrations.

#### SECT. IV.—DISEASES OF THE CIRCULATORY SYSTEM.

##### ART. 19.—*Indications afforded by the Pulse in Cardiac Diseases.*

By R. B. TODD, M.D., F.R.S.

(*Medical Gazette*, March 21, 1851.)

[After some introductory observations on the importance of the *tactus eruditus*, in studying the pulse, Dr. Todd speaks of the character of the pulse in *heart disease*.]



*The Pulse in Heart Disease.*—I shall first direct your attention to those varieties of pulse which are characteristic of heart disease.

The most prominent and well-marked form of pulse in heart disease is one which I described to you in my last lecture as the "*locomotive*" pulse: it consists essentially of a sensible, as well as visible, throbbing pulsation of all the arteries throughout the body, seen, of course, most conspicuously where the arteries are most superficial, and also where they are most curved. The increased conspicuousness of the movement at the flexures of the arteries depends upon its being really greater there,—upon its being not only a change of calibre, as in situations where the artery is straight, but a change in the position and relations of the whole artery. This movement of the whole artery I conceive to be thus produced. The natural inclination of the moving fluid is, of course, like all moving matter, to continue its motion in a straight line; but in a serpentine artery the course of the blood must also be serpentine; and how is this change of direction to be imparted to it? Manifestly by the walls of the artery, and especially by that portion of the walls which constitutes the convex border of the curvature; on this side is thrown the whole of the stress of the impulse; and the effect, therefore, is to throw the artery, or elongate it, in that direction. In a serpentine artery, the convexity of the curvatures is alternately on opposite sides, and therefore the impulse of the blood, and the movement it gives rise to, is thrown alternately on opposite sides; hence, not only the greater movement, but the increased length of curved arteries, and the vermicular character of their motion, is accounted for.

But to return. When you place your finger on a locomotive pulse, you may perceive, by attentive examination, that the peculiar state of pulse is dependent, not only on a remarkable fulness of the artery, but also on a remarkable collapse; that the systolic distension is suddenly followed by a considerable diastolic contraction. The excessive fulness of the artery is, however, merely apparent, and not real; it appears excessive by contrast with the unusual degree and suddenness of the collapse which preceded it, and which follows it; the blood is impelled into an artery, not at all filled to tension, and the succeeding collapse takes place suddenly, instead of by a more gradual subsidence. Now, auscultation and anatomy teach us that this character of the pulse is due to regurgitation. When the ventricular contraction which injects blood into the arterial system has ceased, the stress on the arterial walls is at once relieved by the reflux or regurgitation of a portion of the blood into the ventricle; and as this regurgitation is not gradual, but instantaneous, the collapse is equally so, which is so immediately followed by a fresh injection of blood, expanding the artery, and giving rise to the jerking character that the pulse possesses.

Let us suppose that three ounces of blood are thrown out of the ventricle at each systole, and that immediately afterwards one of these three ounces regurgitates through the patent aortic valves; imagine what a disturbance such a state of things must necessarily occasion in the circulation through the heart, and what a deviation it must be from the natural condition of an artery, filled to tension, firmly supported behind, and gradually relieved in front by the onward capillary movement. This state of pulse, when well developed, is always indicative of regurgitation through the aortic valves; I know of no condition of pulse which exactly imitates it; that which comes nearest to it is what is seen in some cases of low disease, as typhus, or rheumatic fever of a low kind, as I mentioned to you in my last lecture; or an atonic state of the arterial system, with dilatation of the large trunks, and a yielding condition of the aortic valves. In this case the heart propels the blood into the artery with little tone; the result is, that the artery becomes fully and suddenly disturbed by the impetus; there is, therefore, great enlargement, and consequently great collapse, the collapse being perhaps favoured by a yielding condition of the valves: this is the only imitation of it that I know. Now, you will always be able to ascertain the true cause of this locomotive condition of the pulse by examining the heart itself; if it is dependent on a weak and yielding state of the arterial walls, *you will hear the natural second sound, but feeble*; if, on the other hand, it is dependent on valvular lesion, you will hear, instead of the normal second sound, a bellows-sound, generated

by the regurgitation of the blood through the patulous aortic valves, and called, from its being synchronous with the diastole, a "diastolic bellows-sound."

You have at the present time a good opportunity of making yourselves acquainted with this form of bellows-sound, as well as with the locomotive pulse accompanying it, in the case of John Loveland, a patient in the Sutherland Ward, to whose case I have before referred. Let me here narrate to you some of the characteristics of such a state of disease, with the history and phases of which it is highly important you should be familiar. The patient is twenty-four years old, and seems to have been exposed to much hard walking, as well as hard work. He appears to have suffered from some acute affection about three months previous to his admission, but what the exact nature of that affection was does not clearly appear; it seems partly to have partaken of the character of pleurisy, and partly of pericarditis, perhaps of both. From this, however, he in a measure recovered; and when in a state of convalescence, walked seven hundred and twenty miles, at the rate of twelve or fifteen miles a day. The fact was, he belonged to a club which pays its members, when out of work, a shilling a day, and a penny a mile for every mile they walk in search of work. It was on this search that he tramped from town to town when he ought to have been in his bed; and to this, in a great measure, is to be attributed his present condition. Under this constant exercise, his cardiac symptoms increased very much, and he was admitted into the hospital the latter end of last month. His symptoms were then, and still are, dyspnoea, constant, but exacerbated by anything that increases the rapidity of his circulation; cough, of a peculiar, spasmodic, and dry character, not terminated by expectoration, but ending in retching, and sometimes in vomiting. There is nothing elicited by the physical examination of the lungs to explain this cough and dyspnoea; but on examining the heart, the area of dulness marking the portion of it in contact with the thoracic parietes is found to be greatly extended. Those of you who are now listening to heart-sounds for the first time, I advise to listen to the heart of a neighbouring patient, with the heart healthy; you will then hear what the natural sounds are, and will be able to appreciate the aberrations from them: you will hear the prolonged first sound, and the short click of the second. Then turn to Loveland; and in place of this clicking second sound, you will hear a soft blowing murmur—a *bruit de soufflet*, or bellows-sound. The first sound, too, is not natural, but partakes of the same character; and if you transfer the stethoscope from the base to the apex of the heart, you will hear this bellows-murmur as distinct as the other: you will have a regular see-saw—what is specifically called a *double bellows-sound*. The murmur that *supplants* the second sound has its seat at the aortic valves; that which *accompanies* the first sound is seated at the mitral valve; and both are dependent on regurgitation at these respective situations. Judge, then, what must be the embarrassment that results from the double regurgitation—this twofold counter-current through orifices that ought to be closed.

In the present case, the existence of mitral regurgitation renders the locomotive character of the pulse less marked than usual; for all the blood in the ventricle is not impelled into the artery, but a part of it passes back into the auricle: there is less distension of the artery, and consequently its collapse less marked. A locomotive pulse, such as you have in Loveland, is as bad a sign as a patient with heart disease can have. The form of derangement of which it is indicative is most dangerous, because it is a derangement that more than any other interferes with the proper circulation through the heart. Hence it is that in cases of this kind we meet with so much dyspnoea. Dropsy has already begun to appear; the right side of his heart is becoming dilated, and it will get so more and more; and you will find that in eight or ten days, if the patient should live so long, his dropsy will be considerably increased, and his other symptoms will have acquired greater prominence.

A second variety of pulse which you are likely to meet with in heart-disease is a *small weak* pulse, which accompanies mitral disease, whether regurgitant or obstructive. The effect of either condition of the mitral orifice—whether it be the patulous condition, allowing regurgitation, or a contracted state, obstructing the flow of blood into the ventricle—is necessarily to diminish the quantity of blood to be expelled by the ventricle. The arterial system is, therefore, imper-

fectly supplied with blood, and consequently not distended; so that a full pulse cannot be formed. When mitral diseases of either kind coexists with a weak state of heart, then the character of weakness and smallness of pulse will be enhanced in proportion to the degree of mitral disease and of debility of heart. It is this character of pulse, and this state of valvular disease, that we often find accompanied by a weak and sometimes a dilated ventricle, intermission of pulse, and, still more frequently, a great irregularity in the rhythm of the pulse; two or three beats succeeding each other at a rapid rate, then a few slow beats, then rapid ones again, and so on. You may likewise have this form of pulse in cases of obstructed aortic orifice, accompanied by a weak heart, in which the obstruction is so great as to permit only a small stream to emerge from the heart; and you may have it in cases of simple weakness of heart.

A third form of pulse which accompanies heart disease, while it may be more or less full, is especially characterized by a *thrill*, which accompanies the impulse, imparting to the finger a peculiar vibrating sensation, as if the blood were rushing past certain obstacles with considerable rapidity and force. This is indicative of obstructive disease situated at the mouth of the aorta, or in its first portion. A warty growth from the valves projecting into the mouth of the aorta may give rise to this form of pulse by obstructing and dividing the stream, and creating secondary currents, which are the immediate cause of the thrill. In such cases you always have an aortic systolic bellows-murmur of a rough kind—the *fremissement cataire* of the French—which is audible along the large vessels of the neck, and frequently in all the larger arteries; and sometimes, and not unfrequently, this murmur will have a peculiar musical character, dependent on similar vibrations to those which cause the thrill.

We also meet with a *throbbing* and *full* pulse, which strikes the finger with considerable force, in cases of hypertrophy of the heart, which are not complicated with valvular derangement. The bounding character of the pulse resembles the action of the heart itself. There is another point relative to the pulse in hypertrophy of the heart, which has been noticed by Dr. Graves, and is worthy of your attention—namely, that the *frequency* of the pulse is not altered by position. He states that, in six cases of hypertrophy with dilatation of the heart, no difference was produced in the frequency of the pulse by change of posture. I suspect this must have been due to much the same cause as the same phenomenon in cases of weak heart, to which I alluded in my last lecture; for the heart with hypertrophy and dilatation, although acting strongly and with considerable, because extended, impulse, is yet, no doubt, weak in relation to what it has to do—i. e. to the obstacles which it has to overcome.

I have already told you, in my last lecture (*vide* next Art.), that an *intermittent* pulse is not in general indicative of any particular disease of the heart, that it is most frequently the result of merely functional disturbance; but, in cases where you have any reason to apprehend an inflammatory state of heart, such as rheumatic fever, an intermitting supervening upon a previously regular state of the pulse, is a most significant symptom: it indicates almost with certainty the first accession of pericarditis or of endocarditis. After a very short time, however—sometimes only a few hours—the pulse will become regular, even in the most confirmed endocardial or pericardial inflammations. Under these circumstances, you may have a pulse more or less full, but not in general strong. Sometimes, however, if the endocarditis cause imperfection of the mitral valve, as it very often does, the pulse may assume the small and weak character which it is apt to exhibit in mitral regurgitant disease.\*

[The lecturer next inquires, What practical conclusions are to be drawn from the pulse, with regard to the diagnosis, prognosis, and treatment of heart disease?]

1st. As to *diagnosis*. I need hardly say that you must not trust to the pulse alone in forming your diagnosis; but you should always consult it as indicative and confirmatory of other and more certain evidence. We have seen how im-

\* I have great pleasure in referring to some excellent remarks on the pulse in heart disease in the valuable series of "Lectures on Cardiac Diseases," by my friend Dr. Bellingham, lately published in the "Medical Gazette."

portant is the indication afforded by the locomotive pulse and the thrilling pulse, and even by the small, feeble, and irregular pulse. I have many times pointed out to you, that, in heart disease, it is better you should try to make your diagnosis from general symptoms, before you resort, as a last appeal, to the evidence of physical signs. Observe the general aspect of your patient, learn his previous history, and the history of his disease; examine his pulse, its character, the influence of position or exertion upon it; his respiration, the way in which it is affected by similar circumstances; the characters of the cough, dyspnoea, or expectoration, if existing; the existence or non-existence of dropsy, its amount, locality, and where it first commenced; the state of the secretions and symptoms generally; and, finally, the physical signs. Now the advantage of this method of proceeding, in opposition to the other plan of appealing at once to the more certain evidence of the physical signs, is this: you learn all the symptoms your patient possesses,—you group and weigh them,—you estimate their collective and individual value,—and you determine, with more or less exactness, their import and indications; then, with your stethoscope, you determine the particular physical lesion that all these symptoms result from. Whereas, if you first examine the physical signs, you know at once that your patient has so-and-so: you feel no doubt about it, and your mind is apt to be satisfied; and with this certain knowledge you will be very likely to neglect and overlook all the various derangements of the functions that result from it: you will pass at once from diagnosis to treatment, you will fail to get a thorough knowledge of the natural history of the disease, you will fail to ascertain the full value of the organic lesion, and you will fail to employ a treatment often the most rational, and, in many cases, the only one of any avail—namely, the treatment of symptoms. We are all apt to try to arrive at our knowledge by the shortest cut; but such knowledge is seldom so lasting and so beneficial as that which is attained by a longer and more laborious method: it is “the pursuit of knowledge under difficulties” which generally issues in the most important acquirements. In the present case I certainly prefer the old round-about way of going to work; not because it is old and round-about, or because I undervalue the more immediate means that modern brilliant discoveries have put in our hands, but because, in its circuitous route, a great deal of important information must be picked up which we might otherwise fail to secure.

2dly. What *prognosis* can we arrive at in heart disease from the character of the pulse? Our view of the issue of the case will be much more influenced by the *number* than by the *quality* of the pulse, for the quality of the pulse is but of little value in respect to prognosis, except as it influences the prognosis through the diagnosis—i. e. as it shows the existence of some condition which is more or less fatal or dangerous. A very rapid pulse, however,—a pulse that refuses to come down,—is a very bad omen: on the contrary, a moderate pulse of about 80 or 90, or one that, if high, is easily quieted, affords ground for a much more favourable prognosis. The young man to whose case I have already referred has had a pulse of 100 and upwards for several days past, and from that alone I should augur badly of his case; however, a locomotive pulse is of itself a sufficiently bad sign without any complication of rapidity. But the locomotive pulse, as indicative of regurgitant aortic disease, is of much more unfavourable omen than any other pulse, whose distinctive features are determined by organic lesion of the heart.

3dly. With what suggestions as to the *treatment* of heart disease does the pulse furnish us?

With regard to depletion, the indications of the pulse are generally negative; most of them show a condition of tone and vital power that will not stand the abstraction of blood; they show an asthenic rather than a sthenic condition,—a state of the circulation below par, that depletion would but increase. A locomotive pulse is not one that will bear depletion; in the full and compressible pulse we have no indications for bleeding; in the small pulse of mitral regurgitation it is equally contraindicated; only in the strong, full pulse of hypertrophy can general bleeding be borne with advantage; then the loss of a small quantity may often be productive of great advantage. But under any of these forms of pulse a moderate topical bleeding will often be of great advantage, particularly

with the view of relieving local congestions resulting from the obstruction of the circulation through the heart.

Now, what means may be best adopted to keep down the frequency of the pulse? We may employ either *direct* means, which operate at once on the heart, or *indirect* and general means.

Of the direct means, the administration of *digitalis* or of *opium* is the most important. You may give *digitalis* as a diuretic, or with a view to obtain its specific action in reducing the frequency of the heart's action. Given with this latter view, it must be administered with due regard to a correct diagnosis; for while it is a very valuable remedy in one case, it is a dangerous one in another. I would lay it down as a rule, that in all cases where there is regurgitative valvular disease, but especially aortic, *digitalis* given in doses which will depress the heart's action is a dangerous medicine: it weakens the heart, and thereby increases the embarrassment under which it already labours; it was for this reason I would not give *digitalis* in the case of Loveland. In his case, the stream of blood flowing into the auricle meets the blood regurgitating from the ventricle, and the blood flowing into the ventricle has to encounter an obstacle from blood regurgitating into it through the aortic orifice. It will not do to depress a heart labouring under such a derangement as this; therefore the only way in which you can quiet the heart's action in such a case as this is to employ some other medicine which operates upon the heart through its tranquilizing influence upon the nervous system, and so quiets the heart without weakening it. Now, *opium* is such a medicine, and therefore it is more generally applicable to heart affections than *digitalis*. The diuretic properties of *digitalis* may be often called into play in cases of cardiac disease; and for that purpose you may often combine it with a stimulant, as ammonia, or with some preparation of iron, so as to counteract the depressing effects. But the best combination, for a diuretic purpose, is with blue pill and squill, after a formula attributed to the late Dr. Baillie. I have seen, under the use of this combination, considerable dropsy disappear, and the heart become disembarrassed in its action in the most remarkable manner; and it would be impossible to say that the beneficial influence was due to one of the drugs more than another; it is the combination of the three drugs which many times acts so disadvantageously.

But then there are certain other *indirect* means of acting on the heart, as purgatives, which diminish the quantity of the blood without impoverishing it; or steel, which improves the condition of the blood already poor; rest, the recumbent position, a nutritious and moderate diet, mental quiet. It is generally from the efficacy of some of these remedies, especially the last three or four, that heart cases often experience a marked alleviation of all their symptoms on their first entering the hospital.

#### ART. 20.—On Intermitting Pulse. By Dr. TODD.

(*Medical Gazette*, March 7.)

Among the most interesting modifications of the pulse, which we meet with in practice, is that which arises from the impairment of the rhythm of the pulse, or what is called the *intermitting pulse*.

The most common form of intermitting pulse is that in which the phenomenon of intermission results from the prolongation of the natural period of rest in the series of changes which constitute the heart's rhythm. The heart's rhythm consists of a regular succession of first sound, second sound, rest,—first sound, second sound, rest,—and so on. Now in an intermitting pulse this rest is unnaturally long,—the first sound of one beat succeeds the second of the previous beat, but after too long a pause. Sometimes the intermissions are very regular, occurring after every fourth or every third beat; sometimes perfectly irregular, at one time after every one or two beats, at another, every thirty or forty.

Now what are the indications of this form of intermitting pulse? Is it indicative of organic disease? Dr. Todd thinks he may state positively that an intermitting pulse of itself affords no indication of organic disease of the heart. The phenomenon of intermission is due to some disturbance of the local nervous

influence, upon which, probably, the rhythmical character of the heart's action depends. Nor are we justified in pronouncing unfavourably of a patient because he has an intermittent pulse. We may meet with many persons who will tell us that they have had intermittent pulse nearly all their lives. Take a man in his ordinary health, and discharging his usual avocations,—for example, a medical student,—and suppose this intermittent pulse to be his only notable symptom, then we may set it down, without any hesitation, that there is no organic disease,—neither valvular lesion, nor any organic change in the healthy condition of the heart in any other respect.

But undoubtedly this form of intermitting pulse denotes a derangement of the heart's action of a sympathetic nature, and almost invariably in sympathy with the state of digestion. This kind of pulse is of very common occurrence in men who work hard, neglect exercise, are irregular as to meals, and sit up late at night. It is also very common, and doubtless from the same cause, in gouty men. Intermittent pulse is not uncommonly a precursor of a paroxysm of gout. Certain ingesta are very apt in some people to cause intermission of the pulse. Tea, for example, especially green tea, is one of these: ices, more particularly cream ices, will do the same. So, also, certain medicines,—as digitalis and colchicum.

Of all the causes of intermitting pulse in persons of middle age, or upwards, and in the middle or higher classes of society, Dr. Todd thinks we shall find the gouty state the most common. The *materies morbi* of gout acts upon the nervous system of the heart much in the same way as the principle of green tea or digitalis would do, and gives rise to the disturbance which deranges the heart's rhythm: hence, in the treatment of these cases, you must endeavour to purify the blood, by regulating the diet and by promoting the excretions, in such a manner as will not debilitate the patient.

Dr. Todd has stated that the intermittent pulse is not a necessary indication of organic disease of the heart. It is a curious fact, which is in some measure confirmatory of this remark, that of the various forms of disease to which the heart is subject, intermitting pulse is not of very frequent occurrence with any, nor is it constant to any particular form.

If there is one state of cardiac disease with which it is more frequently associated than with another, Dr. Todd would say it was disease of the mitral valve accompanied by weakness of the muscular fibre of the heart. But a large number of cases of mitral disease will occur without it to one with it; and, therefore, this occasional association gives it no value as an indication. The intermittent pulse depends on some interference with the healthy nutrition of the muscular system of the heart; and hence it is observed so frequently in bad states of the blood,—as in dyspepsia, gout, rheumatism.

We may gather, from what has been previously stated, that there is another form of intermitting pulse besides that to which Dr. Todd has alluded. The characteristic feature of this form is, that the intermission of the pulse does not result from intermission of the heart's *rhythm*, but from irregularity in the *strength* of the heart's systolic contractions. The heart may never intermit, and yet the pulse may; or, in other words, the intervals between the beats of the pulse may vary considerably in duration. This form of intermitting pulse sometimes occurs alone, sometimes simultaneously with that in which the heart's rhythm is deranged. When it occurs in the progress of an acute disease, as of fever, erysipelas, &c., it must be looked upon as a sign foreboding the worst results. Our author apprehends that it is this form of intermitting pulse which most commonly accompanies fatty diseases of the heart; and, on the whole, in all states of disease, both acute and chronic, it is that form from which we may augur least favourably for the patient.

Posture influences these two forms of intermittent pulse differently. The first form, or that which depends on a prolongation of the natural period of rest in the heart's rhythm, is diminished by the erect posture, and the heart becomes more regular in its rhythm. On the other hand, the erect posture increases the number of intermissions in the second form by embarrassing the heart's action in the way which Dr. Todd has already described.

ART. 21.—*On the Differential Diagnosis of Functional and Organic Diseases of the Heart, in Anæmic Subjects.* By R. GROWSE, Esq., Jun.

(*Prev. Med. and Surg. Journal*, Dec. 11, 1850.)

The points necessary to be attended to in forming this diagnosis are:—

1. Sex of the patient.
2. Age.
3. Hereditary predisposition.
4. Previous history.
5. Present coexisting maladies.
6. Condition at time of examination.
7. Situation of murmur, and course of its sonorous vibrations.
8. Presence or absence of other physical stethoscopic signs.
9. Influence of remedies.

Sex, though put first, is perhaps the least important of all, except inasmuch as it is necessary to remember, that men do occasionally present themselves to our notice with that aspect, and all those symptoms which have been thought peculiar to the hysterical and chlorotic girl. But though men are subject to anæmia and depraved conditions of the blood, women are much more so, from their natural proneness to hysterical excitement, exhalation or depression from slight and trivial causes; and in consequence of the frequency with which their menstrual functions are disturbed, menorrhagia in the one case giving rise to a deficiency in the quantity of circulating fluid, and chlorosis in the other to a deterioration of its quality; hence cardiac murmurs are always more suspicious when occurring in the male, though the question of sex alone must always be a very secondary and inefficient auxiliary in leading to a correct diagnosis.

The age of the patient, though perhaps of but little moment when taken by itself, rises, however, into importance when considered with reference to other existing maladies; for those morbid conditions of the blood and nervous system which are especially fertile in giving rise to symptoms referable to the heart, most frequently occur in young girls who have just emerged from the state of puberty, and whose menstrual functions and sexual organs are in a state of unwonted excitement, or in those who, having enjoyed single blessedness for a considerable period beyond that which they may consider appropriate, and whose passions have at different times been subjected to considerable elevation, and equally considerable depression, begin to think that it is not "good for woman to be alone." Whereas, on the other hand, organic disease of the heart and great vessels is far more common in persons of an advanced age, and who have necessarily been subject to a more lengthened trial of the power of their circulating apparatus. Numberless cases might here be cited, showing the frequent occurrence of that disease in different individuals of the same family; and general experience will, the author has no doubt, furnish numerous instances where cardiac disease has appeared to descend as a species of family heirloom. Hence even the knowledge of this fact, slight as it is, must not be heedlessly thrown away, as every tittle of information should be made available in discriminating between two diseases, concerning which Mr. Growse has not unfrequently seen the most talented and experienced baffled and at fault.

The previous history of the patient must always be carefully inquired into, especially with reference to the previous existence of rheumatic fever; for experience has amply and lamentably testified that the sequel of this disease is frequently implication of the heart, the internal or external fibro-serous membrane of this organ suffering in precisely the same way as similar membranes about the joints; inflammatory deposits and adhesions either impeding the flow of blood through the natural orifices, giving rise to friction-sounds, or allowing of its regurgitation, and occasioning thereby a murmur. If there be no previous history of acute rheumatism, and the patient be young, anæmic, and the menstrual functions irregular, we have just reason to hope that the bruit is merely functional; whereas, if acute rheumatism have previously existed, there is much reason to fear that our worst apprehensions may be realized.

With regard to *coexisting maladies*, if there be a state of chlorosis or anæmia,

arising from whatever causes, whether from recent loss of blood or profuse discharges, or any other condition which may give rise to a deficiency in the quantity or deterioration of the quality of the circulating fluid, we may be induced to consider, and probably justly, (provided there be nothing in the character of the sound itself which is directly contradictory,) that the murmur is merely a symptom of disturbed circulation; whereas, if no such cause exist, we are compelled to look to the condition of the valves themselves as its explanation. If, in addition to this, the patient at the time of examination be perfectly tranquil, the pulse calm, and no venous excitement present, our fears become reduced to an absolute certainty; for it is asserted by one of the best auscultators of the present day, Dr. Hughes, that he never heard a purely functional or anæmic bruit when the auscultation has been in the condition mentioned; indeed, it frequently happens that a patient presents himself with the pallid countenance and ashy lips of anæmia, with other symptoms referable to the same abnormal sound, but yet his state can be detected on applying the ear over the region of the heart. On examining the pulse, it is found to be perfectly tranquil and quiet. If we now desire the patient to run or walk quickly for a short distance, so as to accelerate the circulation of the blood it will be found, on the reapplication of the stethoscope, that a murmur has become distinctly audible, proving that the velocity of the current is a most important element in the production of this sound. It not unfrequently happens, on the other hand, that a person shall suffer from organic cardiac disease, as manifested by the irregular, unequal, splashing pulse, and the absence of any anæmic condition, yet no abnormal sound can be appreciated; yet, if in this case the circulation be accelerated from any cause, a friction sound will become distinctly audible, which the previous tardiness of the current had been unable to develop in its passage over the roughened valve. Three such cases were but very lately in the hospital at the same time. Hence, though serious organic mischief may be present, and no bruit be audible, the pulse at the same time indicating tranquillity, yet when, with such a condition of the circulation, we hear a distinct murmur over the cardiac region, we are at once led to the conclusion that the bruit is due to organic disease in the heart itself.

The pulse is, perhaps, after all, the best criterion: for with that condition of system which develops a functional bruit, it is quick, feeble, thrilling,—what is commonly called a hemorrhagic pulse,—while in mitral disease it is irregular, unequal, remarkably small, and very disproportionate to the voluminous, heaving, heavy impulse of the heart itself; and in regurgitative disease of the aortic valves, it is splashing, giving exactly that sensation to the finger which is experienced by gently tapping an abdomen distended with fluid; it is hence called the water-hammer pulse.

The situation of the murmur is also of great importance. Thus, in mitral disease, it is most audible just below the nipple, and can frequently be traced up into the axilla, and heard in the back; whereas functional murmurs are invariably situated over the region of the semilunar valves, being, however, recognised from those caused by deposits on the aortic valves, by the fact which has been lately pointed out by Dr. Hughes, and the accuracy of which the author has had ample opportunities of testing,—that whereas the latter can always be traced up in the course of the aorta, the former, in functional bruit, is generally very local, and can never be traced up in the course of the great vessels. This has led to the supposition that the cause of the sound is situated in the pulmonary artery, rather than in the aorta; but the subject is too wide, and the opinions too numerous and discrepant, to be brought forward in this place.

After we have made ourselves perfectly certain that an abnormal sound does exist, it behooves us next to examine whether other stethoscopic signs give any evidence for or against its being functional. If, then, on applying the instrument over the situation of the large veins in the neck, a loud continuous murmuring sound be audible, we may be perfectly certain that such a condition of the system or vessels exists, which is of itself amply sufficient to account for the abnormal bruit. But a state of anæmia may exist capable of producing a cardiac murmur, but incapable of giving rise to the bruit de diable, as it is called; still,



when the latter is present, the probable inference is, that we have functional disturbance to deal with.

The influence of remedies can scarcely be left out of the question, for cases not unfrequently occur in which a state of anæmia, with its pathognomonic signs, coexists with serious organic disease, and it is then by patiently waiting the issue of the remedies employed, in clearing away the anæmic condition, and restoring the regularity of the uterine functions, that we are alone enabled to judge of the amount of real mischief which is left behind. To say so much is due to functional, and so much to organic disturbance, may be easy in theory, but it is most difficult, and often impossible, in practice.

ART. 22.—*Extracts from the Gulstonian Lectures on Diseases of the Heart.*

By EDWARD LATHAM ORMEROD, M.D.

(*Medical Gazette*, March, 1851.)

1. *Symptomatic value of the metallic click. (Metallic cliquetis).*—Occasionally there may be heard over the region of the heart a very peculiar sound, to which the name of metallic cliquetis has been applied. In the interpretation expressed by the use of the last appellation, both Hope and Bouillaud agree; and Hope gives some details explanatory of the mode in which the sound appears to him to be produced. Laennec explains the occurrence of this sound in the same way by costal percussion:—"When the heart, beating in a sharp and rapid manner, though without any really forcible impulse, the apex only comes to strike the walls of the chest." Now, obviously, this explanation is somewhat shaken by the fact that this peculiar sound—which there can be no question about, for any one may produce it quite pure for himself in the way specified by each of these observers—is not always audible at the apex in cases where it may be heard at the base of the heart. Dr. Hope correctly remarks that thin nervous persons are the most common subjects of it, but they are not exclusively so; and this fact again impairs the general applicability of the details of his explanation. The sound may be, and the author believes is, trivial, and almost wholly unimportant; but, for all that, we need not accept a wrong or an unduly limited explanation.

Dr. Ormerod has met with it under four different conditions:—First, in nervous anæmic subjects, when the action of the heart was sharp; secondly, with more violent action of the heart, under circumstances which have led him erroneously to conclude, from the third condition with which he has less frequently found it connected, that it was indicative of the commencement of pericarditis. The fourth condition with which it has been found connected, is a rough, almost scaly, state of the pericardium, about the base of the heart; and perhaps a fifth might be subjoined, but for the fact that it is not always constant under these circumstances:—namely, adhesion of the pericardium, with which we may class the occurrence of this sound over an aneurism. Dr. Latham assures the author, that he frequently meets with it in children, in whom he has noticed that it may be entirely suspended by a little pressure on the walls of the chest.

What should be the conclusion from these facts? The explanation by costal percussion is insufficient: it does not take in all the cases. The explanation by affection of the pericardium again is insufficient; certain it may be as far as it goes; yet there is positive proof, in the continuance of the sound after the two surfaces of the pericardium have become adherent, that the explanation does not go all the way. There are, then, three explanations of the mode of production of this sound:—namely, costal percussion, friction of free surfaces, and movement of connecting areolar tissue. Each probably applies to a limited number of cases. There does not appear to be any one general explanation; nor, considering the nature of the sound, ought we perhaps to look for one.

2. *The Physiognomy of Cardiac Disease.*—There are few diseases but have their peculiar physiognomy. Among the many advantages resulting from the collection of vast masses of disease at our large hospitals, must be reckoned the opportunity thus afforded of learning rapidly to recognise the external charac-

ters, literally the features, of disease. Disease of the heart, too, stamps its peculiar marks on the face. It will not be superfluous to trace what Corvisart did not deem beneath his notice.

Many diseases communicate to the face an expression of their own, in which all distinctions of age are merged, and the child puts on the face of the old man. But it is not so with valvular disease of the heart. On the contrary, we may readily, and without any forced refinement, distinguish between the features which childhood and more advanced age respectively assume under these circumstances.

In children suffering from valvular disease of the heart, the face and conjunctiva are pale and bloodless. Only, through the unusually transparent skin, small vessels may be seen ramifying over the malar eminences and the alæ of the nose, and the face becomes dusky on any exertion or emotion. The features are full, not pinched, as in most of the chronic diseases of childhood. There is no expression of anxiety. With the eyelids partly closed, and the eyes turned down, they sit, motionless, save for the constant heaving of their chests, and even of their whole bodies, with the beating of their hearts. Sad experience has taught them which posture is the freest from suffering; and this they steadily maintain, either upright, with the head leaning a little forwards on the chest, or, as the disease advances, reclining back so as to extend the trachea to the utmost; doubtless, on account of the relief which they thus afford to some labouring organ. They are sensible, and intelligent often to a remarkable degree, like other children who have suffered much from sickness—and seem to take pleasure in being auscultated and made objects of attention. But as soon as they are left to themselves, their eyes fix again upon some object, and they lie looking at it without apparently noticing it, like figures in wax.

The expression is quite different in persons of more advanced age; it is no longer one of placid quiet, but of anxiety and pain. There are still the same constrained unnatural postures, and the same fixed yet vacant gaze; but the face is drawn and livid, the lips are blue and pinched, the cheeks are of a dusky purple, and wherever the skin is put upon the stretch by subjacent parts, vessels may be seen ramifying just beneath the surface. Commonly the skin hangs in a fold from the lower eyelid, so as to expose the dull dingy conjunctiva covering the sclerotic; bloodless, indeed, but wanting that pearly white which we see in anæmia. Much as bronchitis has to do with the sufferings of these patients, and with these particular appearances, yet attentive observation will recognise here quite a different expression to what we see in connexion with that disease. There is neither the intense restless agony of the present attack, nor the passive endurance when the acute stage of bronchitis is past. But to an expression which might suit with the most urgent distress and despair, there is joined a quietude of demeanour which might betoken perfect resignation. In all the patient's distress and uneasy movements, the great object of his efforts is to maintain the most complete rest; as if it were a question whether to bear the present posture, or the wearying search after one more tolerable to his feelings, were the greatest misery. "He cannot be at rest, for rest brings him no relief: he seeks but in one to be freed from the feeling of another pain."

#### ART. 23.—*On the Treatment of Chronic Disease of the Heart.*

By CHARLES RITCHIE, M.D.

(*Edinburgh Medical and Surgical Journal*, No. 185.)

[The treatment of chronic disease of the heart will vary according as it is instituted in the period of quiescence or latency in that of the acute symptoms, denominated by the author the cumulative stage, and in the period of convalescence from the exacerbations.]

In the first of the conditions stated, there is, in aortic cases, no sensible regurgitation of blood on the ventricle, and in mitral but little on the lungs and right heart; and, of course, no marked affection of the systemic venous circulation

and associated viscera in either. A systolic murmur is the most prominent indication of disease of any kind.

In the second, full and maintained regurgitation on the right heart and corresponding organs, with alterations in the size of the heart's walls and cavities, and great functional disturbance of the whole splanchnic system, are main elements in the case. The cardiac murmur is now probably a double one, or, in severe seizures, the two murmurs are coalesced into one lengthened harsh sound.

In the third condition, or that of convalescence from the violent circulatory disturbance of the second period, the action of the heart has become, to a certain extent tranquillized, and the functions of all the other organs more or less restored; but the heart remains enlarged, its valves more or less imperfect, and the general viscera to some extent or other altered by still existing congestion, and previous subacute inflammation. The physical signs of the second period remain, with various modifications of their intensity.

The latent stage of the affection may remain undisturbed in favourable circumstances, especially if the case be aortic, for so long a time as fifteen or twenty years, or, it may be, longer. This happens chiefly in persons not exposed to causes which disturb the circulation, increase the quantity of the blood, or diminish greatly the vital energy. An attack of thoracic inflammation, occupations which cramp the aortic circulation, a life of repletion, a pregnancy or protracted lactation, or exposure to cold, fatigue, famine, mental depression, sudden alarms, or other exhaustive influence, are all so many introductions to the acute seizure; and it is obvious, therefore, that, in the proper management of individuals in the earlier or latent stage of structural disease of the heart, such causes must be sedulously avoided. Such a measure of seclusion from atmospheric influences, physical and mental effort, and full living, as is consistent with the maintenance of what is called good condition, should be aimed at. A mild, bracing, and steady climate; level roads; easy occupations; an upright, erect position of body; a rather dry, nutritious, but not stimulating regimen, carefully adjusted in its quantity to the amount of excretory waste; a free state of the bowels; a copious secretion of urine; and a healthy, perspirable condition of the skin, got by sponging, rubbing, &c., and guarded by the employment of suitable clothing, are each well suited to be useful.

Should the cardiac lesion have risen out of a rheumatic inflammation, the recurrence of another such attack must be sought to be prevented. A good means to this end is an alterative course, from time to time, of colchicum and alkalies. Twenty drops of the wine of the seeds of colchicum, and ten or twenty grains of the sesquicarbonate of potash, dissolved in tepid water, and taken once, twice, or thrice daily, for a month at a time, is a combination which does very well.

Should the case, again, have originated in a condition of primary albuminuria, the appropriate treatment for the lesions which may remain in the kidneys and in the blood will require to be conjoined with that which is best adapted for the affection of the heart itself. The steady and constant employment of the compound powder of jalap as a hydragogue, and of tepid baths, with the occasional exhibition of some preparation of iron, as the syrup of the iodide of iron, or the saccharated carbonate, will often prove serviceable.

The second, or cumulative period of sinistral disease of the heart, may consist of—

1st. The mere consummation of a gradual reflex movement of the blood on the right heart and splanchnic system, accompanied by pulmonary, hepatic, and renal congestion, subacute inflammations, dropsy, and perhaps by pulmonary hæmorrhage.

2d. It may be constituted by a certain amount of these pathological conditions, or of one or more of them, united with cerebral congestion, or bloody or serous effusion, in the form of apoplexy or of palsy.

3d. Or it may be either the immediate result of a recent attack of aortitis, or of some other acute inflammatory lesion in the heart, pericardium, or lungs, with or without hæmoptysis, or be merely an example of the first variety, complicated with any of the inflammations now mentioned.

The treatment in all the varieties will be subject to be modified according as the patient has had the latent period short, and in whom there have been no secondary congestions or effusions, or whether the reverse has been the case. Thus, a case which belongs to the former group referred to, and to the third variety first alluded to, will absolutely demand bloodletting, both general and local, and a strict enforcement of the antiphlogistic regimen; while another, which belongs to either of the other varieties, even while it falls under the first of the categories spoken of, may do no more than bear such measures ill, or become injured by them.

The subjects of the first variety having passed through a long comparatively latent stage, present the full development of most of the primary and secondary pathological changes of which the disease consists, and, as a general rule, bear depletion of blood ill. Should there be great tumult of the heart's action, much regurgitating murmur, violent saltatory movements of the arteries, jerking pulse, and at the same time no evidence of the presence of active inflammation anywhere, the prohibition to the use of even the cupping-glass or leeches becomes more absolute; and when such appearances are succeeded by any extinction of the heart's sounds, or when the pulse at the heart is as high as 130, and especially when any of its pulsations are not repeated at the wrist, the prohibition is complete. The indications of treatment usually are, to relieve local congestion and support the circulation. In cases above the average in general vigour, it may sometimes be desirable, as when the kidneys are so greatly engorged with blood as to have had their secreting power nearly suspended, to draw blood from the loins; but with this exception, and that also of some acute cases of hyperæmia of the lungs, mere congestion of any organ does not demand depletion of blood. Should hæmoptysis be profuse, or even when moderate, and the portion of dull lung considerable, the lancet may be tolerated in young, robust subjects; but in general, even here, the tartrate of antimony, in grain doses or less, repeated every two or more hours, and accompanied by means fitted to relieve the portal and inferior cava veins, and by counter-irritation over the thorax, will be preferable. Of these means, in such a case, the best are frequent doses of the acetate or bitartrate of potash, with or without calomel premised, and the warm sitting or foot bath. The most suitable counter-irritant is a large cantharides plaster.

Should the principal seat of accumulation of blood be the liver or the spleen, warm fomentations to the parts, constantly maintained, saline purgatives, the supernitrate of potash, or the hydriodate of potash, alone or combined with ipecacuanha, cream of tartar, or dandelion, suit well in subjects who have some strength remaining; and in others who are more cachectic, the oil of turpentine in purgative doses; combinations of sulphur, nitre, quinine, or of sulphate of magnesia, with a chalybeate; or of the muriate of ammonia, taraxacum, and extract of chamomile, often prove useful. It is indispensable, in the latter class of patients, to watch the effects of purgatives and diuretics on the heart's strength, fatal syncope having been frequently induced by both.

Associated with these remedies in the slighter cases, and after their use in such cases as are more severe, small, frequently-repeated doses of some mercurial are quite indispensable. A course, regulated according to the strength of the patient and the urgency of the symptoms, of calomel, muriate of mercury, or blue powder, along with evacuants of the bowels and kidneys, and suitable attention to the state of the skin, and the circulation, and of the general strength, comprise, indeed, everything of main importance in the medical management of such cases.

Strong doses of diuretic medicine seldom succeed well in this affection. Catharsis or strangury, or both, will often be induced; and where there is much tone of constitution left, marked by floridity of countenance, &c., or where there is any fever or evidence of acute renal congestion, the use of cantharides or squill should be avoided, and the digitalis in infusion be preferred. In the class of cachectic subjects so often met with labouring under confirmed endocardial disease, the squill, or, should the patient be very anæmic, the cantharides, often occasions diuresis; and in a few rare cases of this kind, the digitalis, when these have failed, may be cautiously employed in conjunction with large doses of

camphorated ammonia, and the use of other diffusible stimulants, as gin, or some bitter tincture, as that of quassia, &c. The supernitrate of potash has the advantage of acting more rapidly than most other diuretics. It often creates diuresis by the second day, and may conveniently be conjoined with frictions of mercurial ointment, instead of calomel given by the stomach. Sinapisms to the loins, constant fomentations, and the use of the sitting bath for an hour at a time, assist the diuretics.

The skin is usually dry, wrinkled, and desquamating, and benefit results from having it rubbed daily with a flannel towel wrung out of hot soap-suds, or out of warm vinegar and spirit, or sea-water, or a solution of bay salt; and the acetate of ammonia and ipecacuan, may be added to the cathartics or diuretics with the same view. The surface should, of course, be protected by flannel coverings; and when it does not occasion fatigue, the tepid, or, when the heart is not excited by it, the warm bath even may be used.

In respect to the best means for quieting the tumultuary state of the heart and circulation, rest—absolute rest—is indispensable, and is often all that is required. No physical or mental efforts can be permitted, and the patient should be carefully guarded against all impressions on his moral faculties of a depressing or alarming kind. A cool atmosphere, a free circulation of air, a firm hair mattress, few and light bed-clothes, and frequent tepid sponging of the extremities, when it can be done without effort on the part of the patient, are all necessary, and often advantageous. In most instances of the disease, in which the general strength remains considerable, it is necessary that the means employed, as the hydragogues and diuretics, for the relief of the other viscera, shall have acted efficiently before the heart becomes tranquillized; and in examples of the complaint in which debility is the chief element, it will be necessary to give wine. This, in such cases, often brings down the pulse and the rapidity of breathing with certainty; and it may be conjoined, if requisite, with ammonia, camphor, and sulphuric ether. The quantity of wine may be made to vary in suitable cases, from four to eight ounces, or more, in the twenty-four hours. Such a quantity cannot be continued long; and even a smaller amount persevered in daily for a month or so, has frequently done harm. The employment of wine in unsuitable instances of the disease, and in large doses, has often proved most mischievous, by the induction of head symptoms, and sometimes of pericarditis. In some instances, the use of large doses, as three, and even four grain pills, of opium, has succeeded in quieting the violent and tumultuous movements of the heart. In others this symptom has become lessened during the employment of the infusion of foxglove in half-ounce doses three times daily. On some occasions the functional disturbance of the heart has been evidently hysterical, as when it happened at the menstrual period. The combination of sinistral cardiac disease with hysteria is, indeed, rather frequent, and it is often attempted to be treated by bloodletting, but with the most calamitous effects. An assurance on the part of the medical attendant of the safety of the patient, and the employment of ammoniated tincture of valerian, will generally quiet the symptoms.

As to the food best adapted during the tumultuary symptoms, it should consist, in the more sthenic class of patients, of farinaceous jellies, and roasted or stewed succulent fruits, adding animal juices or jellies in proportion to the freedom of the case from such symptoms as thirst, hot skin, dry tongue, headache, or flushed countenance. The drink ought to be sparing in quantity, unless in cases where diuretics do not act, when cream of tartar solution, or weak tea or coffee, or buttermilk, and other diluents, may be more freely indulged.

The causes of the head symptoms in the second variety of the cumulative or tumultuary stage of sinistral disease of the heart are various, and our views of its most appropriate treatment, and of its prognosis, will be influenced accordingly. Sometimes the cause appears to lie in the increased power of the left ventricle, sometimes in an extension of the degeneration of the arterial coats to the vessels of the brain, and at other times the sopor or paralysis would seem to be dependent on the plethora of the right heart and cephalic veins, and at others on nervous irritation transmitted from the enlarged liver.

It is a rare occurrence when general bleeding does good in such cases. They often bear a first bleeding, if of moderate amount, without any obvious evil

effect; but if carried so far as to induce a sense of weakness, it most frequently aggravates all the symptoms. Sopor and mild delirium is thus converted into coma, and a benumbed state of the limbs into complete paralysis. When the force of the circulation is much increased, the tartrate of antimony, given to the extent that it is tolerated, is a greatly more eligible remedy; and in all descriptions of case, the croton oil, alternated with small doses of blue pill, or calomel, will be fitted to do good. Shaving of the head, and the use of evaporating lotions, will also often prove beneficial; but blisters are likely to do harm in proportion to their severity and propinquity to the brain. The various other remedies fitted to relieve the loaded state of the heart and other organs, mentioned when treating of the last variety, will be equally advantageous in this. The free evacuations from the bowels, kidneys, and skin, are, indeed, the best means, after the employment of the tartrate of antimony, or the blue pill, for the relief of the cerebral complication. Recourse to stimulating embrocations and frictions of the palsied limbs, and their needful protection and support by flannel bandages, should not be neglected.

In respect to the third variety, or that complicated with inflammation, the nature of the case, and of its management, will receive modification according as the inflammation may be merely a collateral one in another organ, or may be situated in the heart itself; and also, as the patient may be robust or cachectic in constitution.

As a general observation, it may be stated that the case will bear active measures very much in proportion to the distinctness with which the inflammatory lesion is developed. Where the symptoms peculiar to the chronic endocardial disease are aggravated, those of the acute inflammation will be overshadowed and masked; and even when the recent phlegmonous action in such cases is in the aorta, or in the substance of the heart, and also in the pericardium, the same remark will be verified. In fresher or less complicated cases, in which the tumultuary stage is ushered in by a recent inflammation of the heart, the circumstances are different, particularly in robust individuals. Here there may be much intermission and softness of the pulse, with great rapidity and increased frequency; but the oppression at the præcordia, the pain radiating from the heart in various directions, and the auscultatory phenomena, will generally guide us to the discovery of what is wrong, and then the general principles which regulate our treatment of such affections, when entirely uncomplicated, must be enforced here. Small bleedings in the patients who can bear larger ones are often useless, or rather mischievous; but it seems much more expedient, when the heart's chambers are still of normal size, to follow up one such effectual venesection, and probably cupping, by the use of tartrate of antimony and calomel, than to trust to the rapidly and often repeated exclusive employment of smaller bleedings.

One of the first effects of an intercurrent inflammation in endocardial cases, is the arrest of the urinary in common with the other secretions. In complicated and severe examples of the affection, when the inflammation, say of a portion of lung or of the pleura, is not clearly indicated by the ordinary symptoms, this suppression of the secretions, and the refusal of diuretics to act, are very significant intimations of what has happened, and ought in most instances to be met by the use of calomel and opium, and some kind of counter-irritation.

When we are so fortunate as to succeed in calming the disturbance of the organs which constitutes the cumulative or tumultuary stage, the management of the convalescent period will demand our anxious attention. The disposition to relapse is most eminent, and the most ordinary causes of this, when it takes place, are over-feeding, too much stimulation, fatigue, exposure to cold and wet, and the permitting the amount of ingesta to exceed habitually that of the excretions. A strict observance of whatever precautions are calculated to prevent these evils must be enforced. A generous diet, if accompanied by the habitual use of some laxative and diuretic, or the weekly exhibition of a hydragogue cathartic, is what will answer best. The healthy condition of the skin must be maintained by tepid saline baths, and frequent sponging, and a flannel under-dress. A removal to the country, and residence in a warm and dry house, on

the low floor, would be desirable. Iron, cod-liver oil, vegetable bitters, as quinine or colomba, taken along with nitre, will each be useful in individual cases.

## SECT. V.—DISEASES OF THE CHYLOPOIETIC SYSTEM.

### ART. 24.—On *Diphtheritis*. By S. D. BROWN, Esq.

(*Medical Times*, Dec. 28.)

[Mr. Brown, after alluding to a paper by Dr. Bennett, read at a meeting of the Medical Society of London, gives the following account of the disease termed "diphtheritis," which, as the affection is rare in this country, will be acceptable to our readers.]

Its approach was often insidious, commencing generally with slight huskiness of voice, loss of spirits and appetite, but seldom or never any pain in swallowing. In this early stage, and often not at all during its whole course, parents would often wonder at the idea of there being anything at all dangerous the matter with their children, when, perhaps, at the same time, the pharynx was perfectly coated over with false membrane, and the tonsils alarmingly swollen. In another hour or two all hope would be over, from extension of the disease to the larynx and air-passages. In the severest cases the attacks were often suddenly alarming, commencing with vomiting and shivering, loss of appetite, and general disturbance, without any throat affection as yet, which perhaps would not appear for four or five days; the stomach having evidently shown symptoms of the disease from the first. In all those cases the larynx was always simultaneously affected with the pharynx, the croupy symptoms being severe. Such cases were invariably fatal.

In its course it was very uncertain. Some of the little sufferers appeared to get through it easily, others lingering for weeks with slight but still deceitful symptoms. The child would play about with every evidence of perfect health, and enjoy all the little sports of childhood as usual, when all at once the breathing would become croupy, the respiration laborious: the larynx is attacked! The chances are now fearfully against him. No treatment seems to check it. Time is short, as every minute exhausts life. I have seen them die in four hours from such sudden invasions; they may linger four or six days, with deceitful intermissions of sometimes eight or twelve hours' duration. The croupy symptoms would suddenly cease; the little sufferer would sit up, smile, eat, drink, amuse itself, the delighted parents would point to him with admiration of your skill; the sonorous breathing, which you told too plainly, at your last visit, that death was there, has disappeared; and, off your guard, you join in the general joy, and stamp it by pronouncing him safe. Mark! such sudden changes are never to last—it is sure to return. When recovery is to take place, the changes are slow, hesitating, and doubtful for hours and days. Perhaps not more than four hours have passed—you are sent for—the frightful symptoms have returned—generally at night—all now is over—the case is nearly hopeless.

*Treatment. General and Local.*—Local treatment is the sheet-anchor. The only one I found of use was a strong solution of nitrate of silver, never less than 3i to 3i, sometimes 3ij, applied liberally three times a day, or oftener in very severe cases, to the tonsils and affected parts, with a piece of sponge fastened to a quill. I tried the pure caustic, but it enabled me to touch a few parts only of the affected tissues at a time, and those often too severely; I used, in their turn, several local stimulants, but found none to answer so well as the solution of nitrate of silver.

Blisters and leeches were useless, often worse than useless; they exhausted and hastened death in every case. I found ext. belladonnæ and ung. hydrarg. fort., in equal proportions, of apparent use in relaxing the spasm of the laryngeal muscles, when laid thickly on the windpipe. It was only a palliative—never saved life.

*General Treatment.*—I depended on calomel, in combination with ipecacuanha, in doses varying from half a grain each, every four or eight hours. In simple, uncomplicated attacks, I never lost a single case, nor ever allowed it to gain

ground. If called before the windpipe was attacked, I never hesitated to say that a cure was certain, such confidence had I in my remedies, provided the system did not suffer from a primary attack on the stomach. I know of no disease of such magnitude more manageable.

I never lost a case, however severe, where I had established pytalism. In three severe cases—a man of 40, a boy of 12, and a girl of 12—the croupy symptoms gave way, the false membranes, instead of maintaining their dangerous, blankety, continuous appearance, became patchy, and dissolved away like melting snow. The moment pytalism was established, and not till then, I gave wine, and decoct. senegæ, and ammonia, and iodide of potassium at the same time. Emetics I found of great use in the first stages; they always relieved the distress in breathing, and carried away large quantities of mucus; in the last stages they only exhausted, and often would not act at all. The inhalation of vinegar vapour, and the vapour of hyd. c. creta, I have thought useful in desperate cases. They seemed to prolong life in all cases, but never saved it.

I would in every case most unhesitatingly trust to the topical application of nitrate of silver in solution, and the internal administration of mercury, paying due attention to the powers of the system, supporting it with wine, quinine, and ammonia when required, taking great care not to debilitate nor exhaust by bleeding, warm baths, &c., &c.

I can venture to assert that the above treatment, if commenced at any period of the disease before the larynx becomes implicated, will succeed. The only cases I lost were those where the larynx and pharynx were simultaneously affected, the disease having commenced primarily in the stomach two or three days before, as evinced by vomiting, rigor, and general indisposition, and those where the laryngeal implication had shown itself before aid was sought. I had the benefit of a *post-mortem* examination in two cases: the pharynx, tonsils, larynx, trachea, and bronchial tubes were more or less coated with false membrane, the larynx and trachea were thickly coated, the stomach showed symptoms of great irritation also.

#### ART. 25.—On Disease of the Pancreas. By Dr. FEARNSIDE.

(*Medical Gazette*, Dec. 8, 1850.)

[The author narrates two cases of this obscure disease, on which he makes the following remarks, suggestive of the means of arriving at a correct diagnosis.]

As in both of the cases just narrated, disease of the pancreas must have been long in progress, it may be useful to indicate what common and characteristic symptoms were afforded by them.

The earliest phenomena noticed were gradual failure of the general health, and faulty digestion; but these symptoms being present in a variety of diseases are of little diagnostic value. *Deep-seated pain in the epigastrium* occurred in both patients, and in both is said to have become aggravated a few hours after taking food. But the importance of this remark is diminished by the signs found after death in one of the cases, of the previous existence of inflammation of the mucous membrane of the duodenum. *Gastrorrhæa* was present in both cases. Some have supposed that the fluid ejected in this affection is a vitiated secretion of the pancreas; but its existence concurrently with such extensive disease of that organ as was found after death, and must have been going on long before that event, when little or no secretion could be eliminated, is adverse to that opinion, and would rather lead us to conclude that it is simply a flux, the result of hyperæmia of the mucous membrane of the stomach, and analogous to the catarrhs of other mucous membranes.

*Ptyalism* was made the subject of spontaneous complaint by one of the patients. This is a symptom which has been repeatedly observed in cases of disease of the pancreas, and to which considerable importance has been attached, from some conjectured antagonism or "balancement" between the pancreas and the salivary glands. In the same case in which the last symptom presented itself, the tongue was invariably pale and clean, and the freedom of this organ from morbid coating in cases similar to those under review, has been made the sub-



ject of former remark. *The appetite was variable*; in the case longest under observation the quantity of food consumed was generally not below the average of health.

The last case also presented a sign upon which some stress has been laid by Professor Siebert, of Jena, as evidence of pancreatic disease, when coexisting with other indications,—viz., *abdominal pulsation*. In one of the cases the *action of the bowels* was insufficient, as is stated to be the general rule in these diseases; in the other it was irregular; but in neither case, so far as my observation extended, or I could learn from others, was fatty matter ever present in the evacuations, as noticed by Dr. Bright in certain cases of diseased pancreas. In the case last narrated, the *urine* was repeatedly examined, both chemically and microscopically, but except in being generally scanty, and abounding in lithate of ammonia, it did not deviate from the natural state. *Emaciation and anemia*, present in both patients—in one strikingly—are generally seen in protracted pancreatic disease: in these respects, as in some others, the last detailed history shows a resemblance, almost amounting to identity, in symptoms, with a case related by Dr. Abercrombie. In both, the blood-making functions were greatly impaired, as a consequence of which, and loss of tone in the blood-vessels, there occurred throbbing in the arteries of the head and neck, humming in the ears, and abdominal palpitation. In but one of the cases could any humour, or fullness of the epigastrium, be recognised during life.

It may be remarked incidentally, that the thoracic symptoms present in the last case were such as have been frequently observed in fatty degeneration of the heart. The dyspnoea, oppression about the chest, tendency to syncope, feeble impulse of the heart, and small irregular pulse, all give evidence of a weakened condition of the central organ of the circulation. The altered character of the sounds of the heart during life was ascribed to the existing *anæmia*.

From a review of the symptoms met with in these cases, it may be concluded that although none can be stated to be absolutely pathognomonic of disease of the pancreas, yet the union of several affords a very high probability of the existence of a departure from the healthy condition of that organ. In attempting to arrive at a more minute diagnosis, the *general symptoms* and history, with any information derived from a physical examination of the patient, will prove our chief guides. In the case first related, the individual had long suffered in a mode which might have led to the opinion that disease of the pancreas existed; then a considerable tumour was found in the situation of that gland: this might have been occasioned by tubercle, cancer, or simple inflammation; the age of the patient, and especially the freedom from pulmonary symptoms, discountenanced the first supposition. More difficulty, however, existed in deciding between the last two, and the absence of any cancerous hue of complexion merely warranted the expression of a probable diagnosis. The sudden accession of acute pain, syncope, and vomiting, followed by jaundice, indicated the occurrence of some change, producing pressure upon the gall-ducts, and from the constitutional sympathy, of a probably disruptive character, but the rarity of pancreatic hæmorrhage prevented the idea of its presence being entertained. In the second case, the group of symptoms, leading us to infer the presence of disease of the pancreas, was more complete than in the first patient. Respecting the nature of the affection it might have been allowable to hazard an opinion from the probable existence of fatty degeneration of the heart.

In the case first related the pancreas exhibited, on *post-mortem* examination, a very striking deviation from the natural condition of the organ. The increase in the volume and density of the body and left extremity, was due to a new deposit of matter within its tissue; not in masses, as when this consists of tubercle or cancer, but uniformly diffused throughout its structure. Presenting also none of the other characters of those adventitious growths, it could be referred only to the effusion of exudation matter, the results of inflammation, to the existence of which the state of the peritonæum, and the adhesions to the adjoining parts, abundantly testified. The appearance of the central portion of the gland closely resembled that seen in a case recorded by Mr. Lawrence, as one of inflammation; in both, the pancreas was of a deep, dull-red colour, very firm, and crisp on incision. In the left extremity the disease seemed to have been of more

ancient date, and afforded many of the recognized characters of old-standing inflammation. "When the pancreas has been the seat of chronic inflammation, it is said to acquire a great increase in the density of its tissue, which swells, becomes more dry than natural, and of a reddish and whitish-yellow colour." The head of the pancreas was completely disorganized, and occupied by a mass of grumous blood. Viewed in connexion with the state of the other parts of the gland, there can be no hesitation in regarding the hæmorrhage as the result of softening and ulceration produced by inflammation.

In the second case, the whole substance of the gland was infiltrated with fat, a condition which must be distinguished from mere accumulation of fat between the lobules of the organ.\* The results of the same vitiated nutrition were also apparent in the fibres of the heart, which presented both the naked-eye and microscopical characters of fatty degeneration in a marked degree.

Respecting the etiology of these forms of disease, nothing very definite or satisfactory can be stated. Both patients were predisposed to their occurrence, by former intemperance in the use of alcoholic liquors; and from the nature of their occupations,—one was much exposed to the weather, the other to sudden and frequent changes of temperature. In the subject of the last case, nutrition had suffered from the employment for some time of an impoverished diet, and the existence of considerable anxiety of mind. But when we attempt to trace further the operation of these causes, granting them sufficient, our light fails us, from our imperfect acquaintance with the nutritive process.

It has been supposed that the obscure disease, diabetes, has an intimate connexion with imperfect primary, especially duodenal, digestion; and Bouchardat has endeavoured to associate it with disease of the pancreas, and consequent depravation or insufficiency of pancreatic secretion. The cases related above, however, afford no countenance to that opinion. Although, for some time before death, the gland must have been functionally inactive, yet in the case longest under observation, the urine showed no change from its natural condition, except in occasionally being scanty, concentrated, and depositing urate of ammonia.

#### ART. 26.—*On the Physical Examination of the Abdomen.*

By CHARLES J. B. WILLIAMS, M.D., F.R.S.

(*London Journal of Medicine*, Feb. 1851.)

The physical examination of the abdomen by *palpation*, is a matter of importance, and demands a few directions and cautions. The parts of the hands best qualified to feel are the palmar surfaces of the fingers, the pulpy portions of the last phalanx being endowed with the finest touch. But they should be flatly applied, at least at first; as nothing is more likely to start the abdominal muscles into rigid contraction than to poke them abruptly with the ends of the fingers. For the same reason the observer should not be too much above the patient; and if the bed on which the patient is placed is low, the practitioner should sit or kneel beside it, in order to bring his arms and hands more on a level with the abdomen. It is equally obvious that the observer's hands should be comfortably warm, not only for the sake of the patient, but also because the touch is more sensitive in that condition. The posture of the patient generally best suited for examination is the supine, on a mattress or sofa, with the limbs lying straight, but without the least straining or muscular effort. It is often recommended to draw up the knees in order to relax the abdominal muscles; but this action is very apt to produce just the contrary effect, and further interferes with the free accessibility of the lower parts of the abdomen to the observer's hands. It is the great object, that whilst the body and limbs are so equally and completely supported as to be in a state of perfect relaxation, the whole abdomen shall freely admit of the application of the hands to every part, and in every direction. This further suggests, that in all cases requiring nicety in manipulation, the abdomen should be laid bare, the clothing sufficiently put out of the way, and

\* Lobstein, '*Anatom. Pathol.*;' quoted by Dr. Walshe; '*Cyclop. of Anat. and Phys.*' Art. *Adventitious Products*.

that either the bed be narrow enough, or the patient be moved to each edge of it, so that the observer may be able, if necessary, to examine from both sides; this is especially requisite in the deep palpation to be described further on.

The kind of tact by which the different properties of *shape, softness, and hardness, elasticity, weakness, &c.*, are distinguished, is so instinctive as scarcely to be capable of description; but it may somewhat guide a novice to say, that we trace the *shape* by applying the flat fingers and gently rubbing them over and between the prominences and depressions. We test the *softness or hardness* by pressing gently with the pulpy surfaces of the last phalanx on the successive parts over which the hands are passed; that which readily yields being soft, whilst the hard resists the pressure; the *elastic* opposes it to a spring, which, although yielding to strong pressure, sensibly pushes away the fingers as their application is relaxed. *Weight* is felt by lifting upwards a part, and observing what force is required to do this, and with what force it presses down again on the fingers as they are slightly withdrawn; trying the weight of part of the abdomen can be practised only in the lumbar and lateral regions in the supine posture; the anterior regions may be in a measure lifted and weighed by the hands, when the patient lies on his face, or sits leaning the body forwards; and this kind of examination is often of much importance in the diagnosis of ascites and solid visceral enlargements.

In the healthy state, the abdomen is in every region soft and moderately elastic; it feels smooth and uniform to the hand rubbed gently over it; when pressed superficially or deeply, its resistance is elastic and increasing with the pressure; when percussed on one side, no shock or fluctuation is felt on the opposite side; the different parts, when lifted, feel pretty equal in point of weight. This uniformity of soft elasticity represents the intestinal canal in its normal state, containing a moderate amount of gaseous, liquid, and semi-solid matter, pretty uniformly distributed through it. As observed by inspection, slight prominences may often be *felt*, corresponding with the stomach, the cæcum, and occasionally below the umbilicus; but these also feel soft and elastic as other parts, and do not detract from the generally equable character of the healthy abdomen.

Variations from this normal state of the abdomen may arise from alterations in the walls; and it will be well to advert to these before describing those caused by disease of the interior. Excess of fat gives a fullness which will feel firm and elastic, or soft and flabby, according to whether it is on the increase or on the decrease; but it may be known to be fat by its peculiar lumpy feel on the surface, so that it may be pinched up by the fingers and thumb; and in this way the thickness of the layer may be estimated. In the case of very fat paunches, there are masses of fat also in the omentum and mesentery; these form the large-rounded prominence of the *pot-belly*, which renders the palpation of the abdominal viscera very difficult. In order to reach them in such a case, it is necessary to press firmly into the fat, and then to feel by moving the hand in a circular, or backward and forward direction; this may best be accomplished in the iliac and hypogastric regions, where the fat in the walls is not so thick as in the central regions of the abdomen. Where a corpulent person has lost much flesh, which is often the case in chronic disease, the loose flabbiness of the pendulous abdomen may embarrass the practitioner; and the more so, as the fat which is left often has a granular or knotty feel, which might be mistaken for formations within the abdomen. These inequalities are to be distinguished by their being superficial, and capable of being grasped between the fingers and thumb; and the examination of the deep parts is to be effected by the hands steadily pressed inwards, pushing aside these inequalities, and rolling about or handling in divers ways the viscera underneath. Edematous walls are to be treated in a similar manner, and are distinguished by their inelastic, boggy feel, and pitting on pressure.

Permanent tension of the abdominal muscles is a common impediment to the palpation of the abdomen; it causes a feeling of superficial hardness, especially in the direction of the recti muscles. If there be any doubt as to its seat, it may be dissipated by keeping the flat hand steadily and firmly applied with increasing pressure for a few minutes, whilst the patient's attention is taken off by conversation on another topic. The muscles will then be found either to

relax altogether, or so much to vary their degree of tension, as plainly to reveal the cause of the hardness. This test is equally successful, whether the muscular tension be caused by nervous irritability, or by actual pain or tenderness; for even in the latter case, flat pressure, gently and very gradually applied, may be managed so as not to increase the pain.

Extreme flaccidity of the walls of the abdomen might be supposed to remove all sources of fallacy in the manual examination of the abdomen; and it is, in fact, an easy matter to feel the place, shape, and consistence of almost every abdominal viscus; yet, under such circumstances, it is not very uncommon to find the pulsation of the abdominal aorta mistaken for an aneurism, and I have known the anterior convexity of the lumbar spine mistaken for a tumour. These errors arise from the observers not being aware how deep in the abdomen the hand reaches, and would be readily corrected by placing the other hand behind the back, and by thus feeling how small is the distance between the two hands.

*Palpable Signs of Disease in the Abdomen.*—*Feculent accumulations* occur chiefly in the large intestines and the lower part of the ileum; but the remaining portions of the small intestines are commonly more or less distended with gas. Hence the abdomen is generally enlarged; and the fulness feels more elastic around the umbilicus, and more resisting, yet not absolutely hard, in the iliac and hypochondriac regions. The course of the large intestine may often be traced, the greatest prominences being usually caused by the cæcum and transverse arch; and if the abdominal walls are not tense, it is quite possible, by the pressure of the fingers, to distinguish the feculent masses by their substantial but inelastic feel, from the tympanitic contents of other parts of the intestine. If the accumulation be considerable, there is a very appreciable difference in the weight of different parts of the abdomen, as tested in the mode before described. If there be an excessive accumulation of air in the intestines, this distends them so much that the feculent masses cannot be felt, and the whole abdomen has a tight elastic feel of rounded shape, but commonly showing more prominence in some parts than in others.

In *colic*, and constipation with severe *colicky pains*, there may in most instances be felt at parts, depression, corresponding with contracted portions of intestines, which are hard and knotty, in comparison with the tympanitic elasticity of other parts. The abdominal muscles are often spasmodically contracted over these painful parts; but they become eased and relaxed under the steadily increased pressure of the flat hand. In these cases the weight of parts of the abdomen, as tested by lifting them when the patient is in the prone or leaning forward posture, is less than usual, the contents being proportionally lighter, and prevented from ponderating by the tight contraction with which they are bound.

The *tympanites* of low fever and sinking states of paraplegia, from destruction of the lower portions of the spinal cord, or serious injury to its reflex function, is distinguished by the more uniform and less tense elasticity of the abdominal enlargement. The deficient tone of the intestines and abdominal muscles in these cases causes a larger and easier distension; and although the quantity of air pent up may be much greater, the tightness and resistance is less than in colic.

The presence of *liquid in the peritoneal sac* is capable of altering, in various ways, the palpable qualities of the abdomen. The size and shape may be felt to be changed in the same manner already described as obvious on inspection; that is, the size is more or less enlarged, with bulging projections in the most dependent parts; the shape of the parts occupied with fluid is smoother and more uniformly rounded than usual, and in extensive accumulations the surface may feel polished. But the resistance, as felt by pressure, is also distinctive; it is peculiarly soft, inelastic, and heavy. These qualities are most obvious where the abdominal walls are thin and flaccid; and under these conditions, there is no difficulty in detecting by the feel only, even moderate quantities of fluid in the abdomen. Ponderating to the most dependent parts, the fluid is to be felt in the flanks in the supine posture; at or near the umbilicus in the prone posture; in the iliac region when the patient lies on a side; and in the hypogastric region, when the patient sits leaning forward. The soft and mobile, yet weighty

feel of these dependent parts, is to be compared with the more elastic and lighter resistance of other regions occupied by air-filled intestines; and by making the patient change his posture, allowing two or three minutes to give time for the subsidence of the liquid, we may have the further evidence that it is free in the peritoneal sac, if we feel it still showing itself in the most dependent parts. It does not often happen that there is enough liquid in the intestines to give anything like the same superficially soft and heavy sensation under the fingers; and when there is, it may be distinguished by its not thus gravitating from one region to another, as well as by its giving less sensation of superficial softness, and more of a gurgling or elastic feel, from the presence of air.

In proportion as the quantity of fluid in the peritoneum becomes greater, the distension of the walls also increases, and hereby the softness of the abdomen is diminished, whilst the weight is more palpable. The liquid still gravitates in greatest volume to the lowest parts; but it also spreads more or less upwards in a layer between the viscera and walls of the abdomen; and gives a smoothness of surface, and uniformity of the peculiar weighty fluctuating resistance which characterizes its presence. So long as the distension is moderate, the air-filled intestines will usually float on the surface sufficiently to be in contact with the uppermost portion of the abdomen; and this will, of course, vary with the posture of the patient: that part can generally be distinguished by a delicate touch, which may be verified by the more obvious difference of percussion.

But there is a palpable sign of the presence of liquid, often manifest with a moderate degree of distension, more characteristic than any sign, not excepting those of fluctuation and percussion; namely, the striking of the fingers against the liver, or any other resisting body beyond the surface of liquid. It is plain that this sign will be most evident where there is considerable enlargement of the liver, spleen, or some other solid body; and as the liquid and solid become both more distinguishable on account of the contrast in the resistance which they respectively offer to the fingers, the sign serves to detect the presence of both. Thus, a slight enlargement of the liver, reaching two or three inches below the margin of the ribs, may not offer resistance enough to be distinctly palpable by itself; but if there be a layer of serum interposed, and this be abruptly displaced by the fingers, they will strike the solid body with a distinct shock which will unequivocally prove the presence of both fluid and solid. It so happens that in a large proportion of the cases in which there is fluid effused in the peritoneal sac, there is also more or less enlargement of the liver, or some other large viscus; hence this sign becomes more generally useful. By its means the author has been enabled to detect the presence of even thin deposits on the omentum and intestines, and of deeper-seated mesenteric and ovarian tumours. Solid feculent matter in the intestines may give a similar resistance to the fingers under a layer of fluid; and it is important that this source of error should be avoided, by having the bowels well cleared by aperients before the examination.

In manipulating for this sign of liquid and solid resistance, the fingers should be gently pressed more or less into the walls, and then a deeper impulse is to be abruptly made with their ends, so as to strike at any body which may offer resistance, and which then meets the stroke. Over an enlarged liver or spleen, this sign is best felt in the sitting or erect posture; or if the quantity of fluid be considerable, in the prone or leaning forward position. Indurations of the omentum and intestines are better detected when the patient lies on the back. In considerable enlargements of the spleen or left kidney, the author has found this sign in the left lumbar region; but in other cases the front of the abdomen is its usual seat.

On two occasions, through a modification of this sign, the author has diagnosed the presence of something adhesive on the striking surfaces. One was a case of ovarian tumour with ascites; the other, chronic peritonitis with enlarged liver. In both, the fingers readily felt the displacing fluid and the striking against the solid underneath; but on withdrawing the pressure, the surfaces in contact could distinctly be felt to adhere for an instant before following the fingers, being retained by something adhesive. This sticking sensation was plainly felt by several students, to whom the author pointed it out at the time, ascribing it to a

coating of adhesive lymph. The *post-mortem* examinations did not occur till long after, but there was in both cases a deposit of false membrane on the surfaces which justified this inference. Probably this sign may prove useful in aiding to detect the presence of the low forms of peritonitis which frequently accompany abdominal tumours.

*Fluctuation* has long been recognised as a characteristic sign of the presence of fluid in the abdomen. It is commonly felt on applying the left hand on one side of the abdomen, and striking abruptly on the opposite side with the right hand, so as to direct the impulse towards the other hand. A wave is moved by the impulse, and rapidly passing to the opposite side, gives to the left hand the soft shock of fluid in motion. This wave-stroke is transmitted from one side to the other only when there is a continuous layer of fluid. If a fold of intestine rises to the surface in the centre of the abdomen, it intercepts the wave. Hence it often happens, where the quantity of liquid is moderate, that the fluctuation is felt at the lower part of the abdomen in the sitting or standing posture, and not when the patient lies on his back. The distinctness and character of the fluctuation vary according to circumstances that can be pretty exactly defined. The most remarkable degree is that produced when the abdomen contains much fluid, whilst the walls are thin and their tension is increased by a good deal of air in the intestines beneath the fluid. This adds to the elasticity of the walls; and wherever struck, they instantaneously transmit the shock with a kind of spring to every part of the surface; and so faithfully that if a quick tattoo be played with the fingers on any part of the abdomen, each stroke can be felt in every other part with the greatest nicety. This highly vibratory fluctuation may therefore be considered a sign of flatus in the intestines, together with liquid in the peritoneum. Nor is this indication unimportant in its practical relations, for it leads to the use of mercurial purgatives and carminatives; which, by dispersing the wind, not only relieve the tension of the abdomen, but also bring the organs into a state more favourable for the absorption of the fluid.

When the distension of the abdomen depends on an excessive quantity of fluid alone, the fluctuation is still very distinct, but different in character from the last variety. It is less vibratory and spring-like, strikes the feeling hand with a deader, heavier shock, and requires a stronger stroke from the other hand to set it in motion. This kind of fluctuation, together with the peculiarly weighty feel of the abdomen in every part, when lifted with the hand, and the equally dull sound on percussion, is a conclusive proof of the presence of a vast quantity of fluid, such as can seldom be removed without the operation of tapping. In fact, the same weight and pressure which we feel through the walls of the abdomen, is also oppressing and obstructing the organs of circulation, absorption, and secretion, to such a degree as to impede their functions, and to render them little amenable to purgatives and diuretics, which ordinarily excite their action. Hence, with such a state of abdomen, we find the urine and *feces* continue very scanty, and vitiated in spite of all the remedies we employ.

A moderate amount of liquid in the peritoneum requires more care to develop its fluctuation. It is most distinctly felt in the iliac regions when the patient is in the sitting or standing posture, which not only accumulates the fluid in greater quantity in these parts, but also thereby gives the requisite tension to the walls. If the liquid is in still smaller quantity, it may be insufficient to reach from one side of the abdomen to the other; and then it must be tried for in a more limited space, such as the hypogastric or in the one iliac region in the sitting posture. A delicate method of detecting small quantities of fluid by fluctuation, is by keeping the patient for some minutes lying on one side, then after he has turned nearly but not quite on his back, feeling for the fluctuation with the fingers lightly applied to the iliac region of the undermost side, whilst the other hand gently taps the flank or the hypogastric region; or the position of the feeling and striking hands may be reversed. By this expedient the fluid accumulates in contact with the walls, where they are thin, and renders evident the gentlest fluctuation.

In feeling for such delicate and superficial fluctuation it is important that the fingers should be very lightly applied; not pressed into the walls; otherwise the

most sensitive parts of the fingers will be out of the reach of the wave. The soft and weighty feel of the liquid, as before described, may be taken in confirmation of the sign of fluctuation. The sensation of undulation itself, in fact, comprises more or less of the same impression of something heavy, soft and in motion. It is important not to mistake for fluctuation an undulatory movement excited by percussion in the soft fat of the walls. This may be distinguished by its more uniform diffusion over the surface of the abdomen; by its not occurring more in dependent parts than in others; by its less liquid and weighty impulse against the fingers; and by its occurring chiefly in fat subjects, in whom the flabby adipose texture can be pinched up between the finger and thumb in such quantity as to prove that the walls are too thick to transmit any very superficial feeling of fluctuation from liquid in the abdomen. In fact these cases of flabby fat abdomen are those in which small quantities of liquid are less readily detected by fluctuation, than by the comparatively greater weight and duller stroke-sound of the most dependent parts.

The discovery of a small quantity of liquid is of great importance in some cases; as for example, in distinguishing peritonitis from colic or neuralgic abdominal pain, and from tympanitis, with which it is sometimes combined: and in detecting the first commencement of ascites, when remedies are more likely to be effectual than in the advanced stages. We are accustomed to watch for the signs of fluid effusions as indications of analogous conditions in the pleura; and by careful attention to the tests of palpitation and percussion, these signs are not less available in the peritoneal cavity. It is true that we have not the striking contrast of the hollow-sounding lung, and the variations of voice and breath-sounds, to aid in their detection; but, on the other hand, we have the combined tests of percussion and palpation, and above all, we have in changes of posture of the patient the means of concentrating the liquid in a dependent part, and of transferring it to another, in a degree unattainable with pleural effusion.

An obscure fluctuation may sometimes be elicited in the liquid contained in portions of intestine, in the urinary bladder, and even in the gall-bladder, and in cysts connected with the ovary, the liver, the kidney, and other viscera; and if the quantity of fluid be considerable, it will manifest somewhat of its property of weight and soft resistance. But liquid thus contained may be distinguished from that free in the peritoneum, by its more obscure and less superficial fluctuation, and especially in its circumscribed position, which may not be the most dependent, and which is not materially changed with the position of the patient. It is quite possible to have combined, and to distinguish the two kinds of fluctuation, the peritoneal, superficial, or gravitative, and the visceral, deep-seated, or circumscribed. The detection of the superficial fluid is even easier than usual, for the sac or cyst underneath raises the liquid, and makes it to spread more or less over its surface; which renders the fluctuation more obvious, and affords the additional criterion of the striking by displacement of the superficial liquid, as before described. The deep fluctuation is to be felt by first displacing the surface liquid by pressure, and with the hands thus deeply applied, succussion is attempted, and the contents of the cyst further felt. Change to the prone or leaning forward posture will commonly help in this investigation; as the cyst is often heavier, and, displacing the superficial fluid, comes in contact with the walls sufficiently to be manipulated. When the peritoneal fluid is scanty, the sac is more widely in contact with the walls, and may not be separable by any change of posture. In this case it may be of importance, in reference to an operation, to determine whether the sac adheres to the peritoneal walls; and in one such instance, a case of ovarian cyst, the author was enabled to decide this point by the following expedient. The funnel end of a stethoscope being applied to the abdomen where the tumour was in contact with the walls, suction was used at the other end so as to make the walls adhere (by atmospheric pressure) to the instrument; it then became a means of separating the walls from the sac, the peritoneal fluid occupying the space; the presence of which fluid was determined by palpation around the part adhering to the stethoscope, and thus the non-existence of adhesions was proved. This

patient was subsequently tapped; and when the fluid again accumulated, the surfaces could no longer be separated, adhesion having taken place around the puncture.

ART. 27.—*Palpable Signs of Solid Indurations and Enlargements in the Abdomen.*

By C. J. B. WILLIAMS, M.D., F.R.S.

(*London Journal of Medicine*, March 1851.)

[The following extract is taken from the same series of papers on the Physical Examination of the Abdomen:]

*Solid bodies of flattened shape* are met with in the abdominal walls, beneath the integuments, or between the abdominal muscles and peritoneum. In the former situation they can be felt to move freely on the muscles. When attached to the abdominal peritoneum, they remain fixed during the movements of respiration, which would carry them a little up and down were they attached to the abdominal viscera—indurated patches in the situations, I have known both of a caco-plastic, and of a malignant nature; the latter being distinguished by its penetrating through several tissues, and presenting nodular irregularities.

*A thickened state of the coats of the intestines* is of common occurrence, and in most cases of chronic diarrhoea can be detected by careful palpation in the region of the cæcum, or sigmoid flexure. The thickening results from a low inflammation of a subacute kind, and is usually attended with occasional attacks of diarrhoea or dysentery. . . . In feeling for these intestinal thickenings, some variation of manipulation may be necessary in different parts of the abdomen. The cæcum is usually quite superficial and prominent, and its thickening may be detected by gentle pressure, meeting with more resistance than is felt on the opposite side, while percussion elicits a hollow sound. The ascending and transverse parts of the colon lie deeper and require deeper pressure to test their resistance, which is to be distinguished—that of an enlarged liver, by being sonorous on percussion—the thickened sigmoid flexure is distinguished by deep rotatory pressure, when it will roll under the fingers like a large curved cord.

The same tactile exploration will detect thickening of malignant nature, which is distinguished from inflammatory deposit, in assuming the form of a circumscribed tumour; both from being developed as nodular masses, and from the disposition to involve and agglutinate contiguous tissues.

*Malignant disease of the stomach*, when affecting the pyloric end, and involving the duodenum, colon, and pancreas, in most cases forms a tumour, which may be felt in the epigastric region. The tumour often pulsates, from the motion of the subjacent aorta; but the pulse is in one direction only, and not diastolic, or enlarging at each beat as in aneurism. The tumour is distinguished from the liver by being deeper seated. Scirrhus of the cardia cannot be detected by touch.

*Solid massive tumours* in the abdomen, as those of the liver or spleen, present certain characters in common. The liver may enlarge in every direction, and in most cases may be detected by palpation, as well as by percussion and inspection. The most common mode of enlargement is downwards, with more or less fulness, when it may be felt by its resistance as compared with the opposite side; and in extreme cases, the lower margin may be felt to be distinctly as a rounded ridge. It is important to take notice of the degrees of induration of enlarged liver. The soft enlargements are in many cases tractable under remedial measures; especially, those which increase and liquefy the biliary secretion. In some cases of indurated liver, benefit may also be derived from the same means. In these we do not feel the granular and uneven surface as in the more formidable kinds of cirrhosis. Neither do we find the failing appetite, increasing jaundice, breathlessness, fluttering pulse, and the ominous arcus senilis, which are indications leaving no hope of real recovery.

Cancerous tubera of the liver are often very palpable, and are known by being rounded, flattened, or umbilicated with central depressions.

The spleen lying deeper than the liver, requires deeper pressure for the appre-



ciation of alterations in its size—the fingers must also be passed obliquely upwards, and to the left. When greatly enlarged, it comes into contact with the walls of the abdomen under the whole margin of the left ribs, from the spine to the epigastrium; it occupies the whole lumbar, iliac, and hypochondriac regions, and may extend even across the mesial line. In all these localities, it is felt as a heavy solid body, generally smooth and even on its surface, except on the right outline, which is often uneven.

The *kidneys*, from their deep situations, are not so easily made the subject of tactile examination. For this purpose, it is necessary to displace the superjacent intestines, by a rotatory pressure of the hands. In making this (as all abdominal: Ed.) examinations, it is often necessary to divert the patient's attention, in order to prevent the contraction of the abdominal muscles.

Bulky enlargements of the kidneys are readily detected in the lumbar region, and in front. Cysts in the kidney, and its expansion by the purulent products of chronic pyelitis, may thus be distinguished. Malignant disease is recognised as a tumour, which has the additional diagnostic symptom of hæmaturia.

#### ART. 28.—On the Treatment of Obstruction of the Bowels.

By EDWARD WELLS, M.D., OXON.

(*Medical Gazette*, Nov. 22, 1850.)

[In some preliminary remarks, the author informs us that it is not his object to treat of intestinal obstructions from causes external to the tube, as tumours, &c., nor of obstruction arising from internal causes, as hardened feces, neither of those cases which originate in hernia. The cases which he has in view are those which have no demonstrable cause of the obstruction, such as in the following supposed case.]

You are called to a patient, who informs you that he has had no proper relief from the bowels for the last seven or eight days, that he has been to the druggist, and taken black dose upon black dose, pill upon pill, and that they are all in him, and he wants to know what he is to do next. He tells you further that it is true he has been to stool once or twice, or perhaps even oftener during the time, that he has perhaps on each occasion passed something, but he is sure it is not what he ought to have passed. In short, to use his own expression, although he has occasionally had a scanty evacuation, he is convinced that "*nothing has gone through him.*" Upon examining the abdomen, you find some distension around the umbilicus, with a degree of tenderness on pressure. This last symptom varies from that slight shade in which the patient can hardly say whether the pressure relieves his pain or not, up to decided tenderness on the least touch. In mild cases the patient will tell you he feels very well, excepting the obstruction, but the knowledge of its existence makes him very uncomfortable. In other cases there is some degree of sickness conjoined, merely perhaps occasioned by the purgative draughts. In severer cases the sickness is more permanent, mucus or bile being rejected from the stomach. In such instances we should expect the tenderness on pressure over the bowels to be greater, though still not in any degree approaching to what usually occurs in peritonitis. There will also be a rumbling of flatus in the intestines, and the patient will say he feels the wind pass downwards to a certain point and then stop. All this time the pulse is not perhaps accelerated, it is generally weak; the tongue is moist and often clean; the urine, provided the obstruction be not situated high up in the bowels, is not necessarily affected, though generally high coloured.

Under these circumstances, and especially in the milder cases, the first thing perhaps that you do is to order a large enema to be thrown up. It is found to traverse the large intestine easily; the patient assures you that he feels it go as far as the ileo-cæcal valve, and after a short time it returns without any tinge of fecal matter. The obstruction is not in any part of the colon, but somewhere in the small intestine.

What treatment should, then, be adopted? In the severer cases, where there

is pain upon pressure, distension of a portion of the intestine, a rumbling of flatus, and frequent vomiting, it will be said that the line of treatment is easily chalked out; that, whatever the cause of the obstruction, we have inflammation superadded; and that our treatment must be directed to subdue the latter. This is quite true: and in such well-marked cases I do not think there would be much chance of the case being misunderstood. But we must remember that these severe instances of the disease are only the consequence of a continuation and aggravation of the symptoms of its milder forms. We must not forget that the most simple case of obstruction is liable to run on into a fatal form, if, with the view of obtaining an action of the bowels, we are incautious in the prolonged use of irritating medicines. Finding that the patient's chief discomfort arises from the fact of the bowels not acting, that he professes himself as feeling otherwise well, we are, perhaps, rather too liable to fall in with his own fancies, and just give him one more dose.

Now, in these cases what ought we to do? In the first place, abstain entirely from all purgative medicine. It will be much better to err in not giving sufficient aperients, than to err in giving too much. The first thing to do is to compose the patient's mind by informing him that there is no hurry for the bowels to act; that if he waits patiently, they will be sure to act in time; to tell him instances of persons who have gone a long time without any action of the bowels, and have done well.

Next, in these cases of obstinate obstruction I have great faith in the lancet, where it can with safety be used. It has seemed that a slight degree of faintness produced by bloodletting has acted very beneficially in removing the exciting causes of the obstruction, probably by the general relaxation which the faintness itself occasions. By putting the patient in an upright position, and bleeding him until he begins to feel slightly faint, I think we are quite safe not to do him any harm. If he is of a weak nervous temperament, a very few ounces will produce the desired effect. If he be strong, he will afford to lose more. Where, however, the debility of the patient forbids the use of the lancet, it will be as well to apply leeches around the umbilicus. These act, probably, by relieving the local congestion, which is either the cause or the effect of the obstruction.

These measures premised, the safest plan is, I think, to put the patient upon repeated doses of calomel and opium. Even if inflammation be totally absent, the exhibition of these two drugs is likely to be attended with the best effects. The opium soothes the bowels already irritated by the repeated cathartics: it allays the over-excited peristaltic action; it relaxes any contingent spasm, and quiets the patient's mind. To effect these objects, it must be administered in sufficient doses—such as gr.  $\frac{1}{2}$  to gr. j. every four hours. The calomel, by improving the secretions, and exciting the action of the liver, tends to remove the cause of the obstruction. And if this happen to depend upon a partial enteritis, the combined action of these two medicines would hold out the best hopes of a successful treatment. If the calomel be sufficiently guarded by opium, there is not, I think, any fear of its producing any serious irritation of the bowels.

While using these remedies I should be in no hurry to accelerate the action of the bowels by aperients. I should rather wait until they begin to act of themselves, as they generally will; and then, provided no inflammatory symptoms were present, there would be no objection to administer a dose of castor-oil to aid their propulsive efforts. In these cases it is also better to delay the administration of aperient enemata until the bowels are acting of themselves. Previously to this they appear to add rather to the patient's discomfort, probably by the distension they occasion in the large intestine, which reacts upon the parts already distended by the obstruction.

When there is no tendency to sickness, it is better to allow the patient to take food, in the shape of gruel, by the mouth. It prevents that sense of sinking which he often experiences, and it probably acts in some degree mechanically in propelling the contents of the intestinal tube.

In those severer cases, where there is frequent sickness, with pain in the bowels, and a rumbling of flatus, the above measures will be still further indicated. But there will also be other things which it will then be necessary to

attend to. In these cases it is of great importance to abstain from giving any food by the mouth for some days. A teaspoonful of cold water should be put into the mouth from time to time to allay the patient's thirst. His support should be entirely intrusted to beef-tea injections. It is proved that these are sufficient to maintain the strength for some time—at any rate, for a period sufficient to allay the irritating symptoms, which forbid the exhibition of food by the mouth. This part of the treatment I am inclined to consider as of the highest importance; for as long as food is continued to be administered by the mouth, and is rejected by vomiting, there will be little chance of arresting the inversion of the peristaltic action of the intestinal tube. The nutritive enemata should be of small bulk, not exceeding at the outside a quarter of a pint; otherwise they will not only not be retained, but they will add to the patient's sufferings. They should be administered at regular intervals of four hours. When there is much rumbling of the intestines, or when there is a difficulty as to the retention of the injections, it is advisable to add to them a certain proportion of laudanum.

ART. 29.—*Case of Abscess of the Spleen, evacuated through the Lung, Portal Phlebitis, &c.* By ROBERT LAW, M.D.

(*Dublin Quarterly Journal of Medical Science*, Feb. 1851.)

Mary Mathews, æt. 26, pallid and strumous in aspect, was admitted into hospital in a state of extreme exhaustion, complaining of great dyspnoea and pain in the left side of the chest. There was a fetor from her breath which alone would have indicated gangrene of the lung. She had a most distressing cough, with expectoration of a dirty brown frothy mucus, emitting the same fetor as the breath, but in a less degree. The left side of the chest was dull to percussion in its postero-inferior half, and corresponding to this dull sound auscultation discovered a distinct amphoric resonance through a large muco-crepitant rale, amounting to gargouillement. The rest of this side, both posteriorly and anteriorly, was clear when percussed, especially so below the mamma; and the respiration was heard distinctly, except under the mamma. Both percussion and auscultation confirmed the integrity of the right lung. The heart's action was peculiarly rapid, so that it was quite impossible to analyse its sounds; in fact, but one sound could be heard. Pulse 130 in the minute, and very small. Her cough had a peculiar tracheal character, and gave her much annoyance; it quite prevented her from sleeping. She had very heavy perspirations at night. She had distressing thirst, but no desire for food. The tongue was quite clean. The history of her case was, that having drank cold water when the menstrual discharge was present, she was suddenly seized with violent pain of the abdomen. The medical man who saw her soon after the pain came on, found her writhing with agony, with the abdomen enormously distended with flatus. He tried to introduce a large gum-elastic tube into the rectum and up the intestine, but without success, till some blood was taken from the arm; then the parts seemed to relax, and allowed the tube to pass. Injections thrown up brought away a large accumulation of feces, and quite removed the tympanitic tension. The pain, however, did not subside, and a diarrhoea came on, but without any blood in the discharges. She was now at the beginning of the third week of her illness, when she felt a very sharp pain in the left side of her chest; shortly after which her breathing became very much oppressed. She now began to cough. The oppression of her breathing continued to increase until she was admitted into the hospital. A week after this, a new phenomenon presented itself; the fetor of the breath and of the sputa showed the existence of gangrene of the lung, but the amphoric resonance in the posterior left part of the chest, and the clear sound under the mamma, created a suspicion that a detached slough of the pleura had given rise to pneumothorax. In order to ascertain this, Dr. Law made the patient alter her position, and allow him to examine her on her hands and knees. The alteration of position made no change in the phenomena, which continued *in statu quo*; nor did succussion indicate the presence of any fluid in the chest. The diagnosis was, that there was a gangrenous cavity in the lower part of the left lung. There

was but little variety in her symptoms from the time she came into hospital until her death, which occurred at the end of a week. She chiefly complained of the violence of the palpitations, and of rigors, which she had every night, and which were at times very violent. These rigors were sometimes followed by perspirations, and sometimes not. The pulse at the wrist was often so rapid that it was impossible to count it. The treatment consisted of wine, and she drank most freely. Pills were given to her, composed of morphia and chloride of lime, the former ingredient to relieve the distressing irritation of the cough, and the latter to correct the fetor. The examination of the body exhibited most interesting pathological appearances. The lower lobe of the left lung was completely disorganised; it was reduced to a dirty, blackish brown mass,—to that state which the French pathologists so aptly designate *putrilage*. In the centre of this mass was a jagged, uneven cavity, not lined by a distinct membrane, but bounded by sloughing pulmonary substance. This cavity extended upwards through the height of the lobe of the left lung, and downwards through an opening in the diaphragm, through which at least two fingers could pass, into an abscess of the spleen. This abscess, which contained a quantity of pus and a portion of the spleen, was lined by a regular defined membrane. The portion of the spleen in the abscess exhibited, partly on its surface, still covered with its capsule, the appearance of a withered, shrivelled apple, while a considerable part of it was broken down and jagged from ulceration. To return to the lung, there were small depôts of purulent matter in the diseased portion of it, and many of its vessels were plugged up with lymph. The superior surface of the stomach was attached to the under surface of the anterior margin of the left lobe of the liver by bands of pasty lymph, into which thin purulent matter was infiltrated. It was in fact a specimen of diffuse inflammation. The liver was larger and paler than natural, and when a section was made from its anterior to its posterior margin, pus issued from the divided vessels. All the branches of the porta seemed to contain purulent matter. The splenic vein contained a dirty grumous coagulum, about an inch long, which could be easily detached from the sides of the vessel. Neither the lining membrane of this vein, nor of the porta, was either red or vascular, or softened in its structure. The heart was small. Its muscular structure, especially in the left ventricle, was in a state of most rigid contraction, and its cavity almost entirely obliterated. I found no coagula in the right cavities of the organ, nor in the pulmonary artery. The only other morbid appearances that were discovered, were a slight ulceration of the os uteri, and the cicatrices of old buboes in the groins.

Dr. Law thinks that the records of pathology do not present an exact parallel with the case just detailed, nor one exhibiting such a variety of interesting features. Its history leads him to believe that the mischief originally began in the abdomen. It is not easy, he observes, to determine whether the substance of the spleen was first affected, and the inflammation extending from it to the peritoneum produced an abscess bounded by adhesions; or whether it was originally an inflammation of the peritoneum lining the diaphragm, in the neighbourhood of the spleen, ending in the formation of an abscess that involved a portion of the spleen. Although there is no organ in the animal body with whose pathology we are less acquainted than the spleen, yet he considers it would perfectly consist with what we do know of the ordinary circumstances under which it becomes diseased, to believe that in the present case it was the first link in the morbid chain,—the *point de depart* of all the subsequent mischief.

From certain facts connected with the pathology of the spleen, Dr. Law favours the supposition that any cause suddenly checking the menstrual discharge, when present, would be very likely to determine to this organ, and perhaps produce inflammation, terminating in suppuration, if the condition of the constitution favoured such a termination. The subject of this case exhibited every indication of a scrofulous habit, further damaged by syphilis. The substance of the spleen was destroyed to a considerable extent, while what was left of it was very soft and diffuent. The other view that suggested itself to him was, that it was originally a circumscribed peritonitis, forming distinct loculi, which became so many abscesses, one of which happened to come in the way of the spleen, and contracted adhesions with it, and so embraced a portion of it as to enclose it

within its cavity; that this cavity afterwards took on an ulcerative action which destroyed a portion of the enclosed spleen, while it also made its way up through the diaphragm, and so invaded the lung, and produced in it the disorganisation noticed.

After some further observations on the difficulty of explaining the presence of pus in the portal veins, and on the differences in the splenic and pulmonary lesion, which he attributes to the change induced in the vital powers by the purulent contaminations, Dr. Law concludes with the following recapitulations of the permanent features of the case:—

1. The affection of the spleen, whether primary or secondary, in either case it adds to our knowledge of the pathology of the organ.
2. The gangrene of the lung occurring under unprecedented circumstances.
3. Portal phlebitis, exhibited chiefly in rigors and peculiar actions of the heart.
4. Purulent dépôts in the lung.
5. Diffuse peritonitis.

## SECT. VI.—DISEASES OF THE GENITO-URINARY SYSTEM.

ART. 30.—*The Detection of Seminal Fluid in the Urine in Cases of Masturbation. Microscopical Appearance of the Zoosperms.* By THOMAS INMAN, M.D.

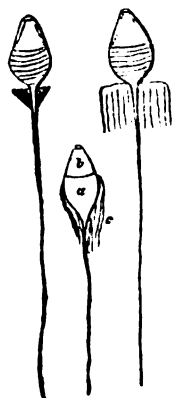
(*Medical Gazette*, Nov. 29, 1850.)

The author had received from Dr. Brett a specimen of urine for microscopical examination. It was lightish in colour, somewhat turbid, of sp. gr. 1018, did not answer to the test for sugar. It had a somewhat peculiar smell; and, after keeping a few days, was loaded by a vegetable growth like the torulæ of diabetic urine. It showed little tendency to putrefaction,—so little, that some which is now twelve days old, and has been kept in a warm room, exposed frequently to the atmosphere, smells perfectly natural, and is without any ammoniacal odour. Another specimen has been kept in an open wine-glass for about a week, and is still sweet.

On making a microscopic examination of the fluid, he found that it contained, in addition to the torulæ, a number of large fragments of epithelium adhering together, and evidently large exfoliations of very large tubes. There was also an immense number of organic granules, which he at first considered might be pus.

The general characters of the fluid not being those of a purulent urine, he made a closer investigation, and at last found a number of spermatozoa. The urine was spermatic; and the case was most probably one of extreme masturbation.

This was not, however, the most interesting discovery he made, for he was enabled most unequivocally to see the relation between the so-called animalcules and the seminal granules. Before detailing this we may mention that the author has long been dissatisfied with the figures given of the zoosperms, inasmuch as they never show any caudal appendage. Now he has found, in an immense number of instances, that there is a peculiar formation at the base of the tail. This is so common that he considers it the exception when the animalcules are deficient of it. It consists of a delicate, transparent, membraniform substance, which may readily be detected by a good  $\frac{1}{2}$  inch and a low light. It may be thus figured:—



a, solid body; b, sac; c, caudal appendages.

This appearance could only be accounted for in the author's mind by the supposition that each zoosperm was developed in a cell, the tail protruding like a cilium, until the emission took place, when all the zoosperms were torn from their attachments, the other contents of the cell going to swell the amount of the secretion discharged, and that the

granules were, probably, immature cells in which the zoosperms were undeveloped. This idea of the cell origin of the animalcule received its strongest confirmation from the fact that the appearance of No. 1 was the most common,—when it was evident that a fragment of *something* or other was carried away; and that *something* could only be a continuous membrane or a cell; everything went to disprove the probability of the former.

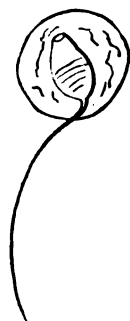
The author was then diligently on the lookout for granules in the transition state; but his search was unsuccessful until he examined the above-mentioned specimens. He found in one of them a *granule containing a zoosperm*, of which the annexed is a sketch:—

It rolled over during the investigation, so that he could convince himself that the zoosperm was not simply an adherent one. Another granule was in a transition state, neither the tail nor the head of the zoosperm being fully formed; thus—

The size of these granules was about  $\frac{1}{1000}$ th of an inch.

He has been able to verify these observations on a subsequent specimen of spermatic urine from another source, and has now seen the appearance described in at least four separate cases.

The author found, on reference to Todd's "Cyclopædia of Anatomy and Physiology," that two observers had noticed analogous phenomena in the spermatic secretions of the dog and of the rabbit, and that Dujardin and Kölliker have noticed the caudal appendage. He has not seen the drawings of the former, and therefore cannot say whether we refer precisely to the same things. He believes no observer has yet noticed them in the human semen. The authors of the article consider that the appendage may be due to matters accidentally deposited by the urine, in which fluid the phenomena are usually investigated. This can scarcely be, as they are to be found equally in that fluid when freshly passed. The fact appears to be, that the spermatozoa can never be examined with so much satisfaction as when they are expelled with the contents of the bladder. After an emission a certain quantity of semen remains in the urethra. This is exposed to little violence, as it is not as readily expelled as the first quantity evacuated. This residuum is washed out by a stream of fluid, and the animalcules are never subjected to anything likely to destroy their characters up to the time of their being placed in the field of the microscope.



#### ART. 31.—*Diagnosis of Fatty Degeneration of the Kidney.* By Dr. G. JOHNSON.

(*London Journal of Medicine*, Feb., 1851.)

The urine, in cases of fatty degeneration of the kidney, has characters sufficiently distinctive to render the diagnosis a matter of ease and certainty. It is commonly of a pale yellowish colour. When just passed it is clear, but after standing some hours it usually deposits a light cloudy sediment; sometimes in the early stages the urine has a dark smoky colour, from containing blood. The quantity secreted is less than normal, and its density in most cases exceeds the healthy standard. It is by no means unusual to find the specific gravity varying from 1025 to 1030. The albumen is generally very abundant, so that when boiled the urine becomes almost solid. On a microscopic examination of the sediment, there may be seen transparent casts, of rather small size, in many of which oil globules are entangled; also cells containing oil globules in greater or less abundance. The majority of these cases have terminated fatally, while, in a few instances, the symptoms continue in a greater or less degree, the urine

continuing highly albuminous, and presenting unequivocal microscopic evidences of the true nature of the disease. For the purposes of prognosis, it is as important to distinguish between a case in which the urine presents the above characters, and a case of simple desquamative nephritis, as it is to distinguish tubercular disease of the lung from acute pneumonia.

## SECT. VII.—DISEASES OF THE SKIN AND CELLULAR TISSUE.

ART. 32.—*Remarks on the Fungus of Favus.* By S. A. GRIFFITH, M.D., F.R.S.

(*Medical Gazette*, Feb. 14, 1851.)

[Dr Griffith was induced to study this subject from the perusal of the interesting observations by Dr. Bennett, of Edinburgh. (Vide "Abstract," vol. xii., p. 76.) He says:—]

These forms of disease appear to be by no means uncommon in Edinburgh, the same view seems to be generally entertained regarding their prevalence in this metropolis; but the presence, or even the existence of the fungus, is for the most part denied by authors whose observations have been made here. Judging from my own experience, true favus is not so common in London as is generally thought. It not infrequently happens that we find two or three articulations of a fungus in the crusts of impetiginous eruptions of the scalp and other parts of the body; but these are considerably larger than those found in favus, and their number bears no proportion to that in the true disease. I have always regarded them as arising either from the growth of some joints of yeast derived from the bread used in the bread-and-water poultices which are so frequently applied for the removal of the crusts, or as having been derived from the air. To the accuracy of the description given by Dr. Bennett of the true fungus, I can bear testimony, both from the examination of specimens which I have found myself, and from some of Dr. Bennett's, which were kindly obtained for me by my friend Mr. Acton. The view which I cannot avoid taking of the denial of the occurrence or existence of the fungus is, either that the true disease has not been investigated in these cases, or that the pustular elements have been submitted to microscopic examination instead of the capsular. It appears to me quite impossible that either the sporules or the articulations of the fungus can for an instant be mistaken for particles of epithelium, or anything else, by any at all accustomed to the microscopic examinations of the lower forms of vegetation. I have mentioned the comparative rarity of the true disease to one or two others who have investigated the point, and their results have coincided with my own.

The striking general resemblance of the fungi of favus to those which grow spontaneously in diabetic urine, and constitute yeast, excepting their size, induced me to examine the crusts as to the presence of sugar, thinking this might throw some light upon the disease, and might explain its origin *de novo*. The results, however, were negative, as regards the presence of this substance. The objection raised as to the probability of the above mentioned fungi and spores being truly such, on account of their simultaneous power of reproduction by division and the formation of spores, is certainly of no weight. We find this occurrence existing undoubtedly in the vegetable kingdom; it is probably well known, although not distinctly expressed as a physiological phenomenon; but, perhaps, constituting the true systematic distinction between algæ and fungi. The torula, or mycoderma cerevisiæ, as it has been called, so long as the supply of sugar and glutinous matter upon which it lives exists in the liquid in abundance, continues to increase by the production of gemmæ or subdivision; but, as soon as these contents are exhausted, the articulations become very much

elongated; the gemmation or subdivision ceases; and, where the fungus comes into contact with the air, sporules are produced. This is readily witnessed in the common members of the lower fungi, such as those which drop into a mixture of sugar and urine or water from the air.

The so-called sporules found in the favous capsules in their early stage are, I believe, only the smaller joints of the fungus produced by gemmation, and not the spores, which are probably not formed until the capsule has burst or been broken. The long filaments which have been above alluded to are apparently produced as an effort to reach the surface of the liquid, when the contents of the liquid can no longer afford the material requisite for the growth of the fungi. In all these cases the spore-bearing filaments are found upon the crust-like scum covering the surface of the liquid.

[The author, in conclusion, gives an abridgment of M. Lebert's excellent summary of the diseases most commonly affecting the scalp. This admirable microscopist and pathologist also believes in the fungous nature of true favus.]

The eruptions on the hairy scalp may be arranged in the three following categories; the two first of which constitute false, the third true favus:—

1. Augmentation of the epidermic secretion; thin grayish-white pellicles between the hairs; sometimes augmented sebaceous secretion; absence of signs of inflammation. *Pityriasis capitis*.

2, *a*. Inflammation of the superficial part of the skin, the office of which is to secrete the epidermis: this we shall denominate superficial dermatitis. It is characterized by the eruption of very superficial vesicles or pustules, which dry and form thin, yellowish foliaceous crusts, in which epidermic elements preponderate over those of pus. The hairs are often glued together: this is chronic eczema of the hairy scalp.

2, *b*. Inflammation of the deeper layer of the skin, characterized by more manifest, yellower, and more deeply situated pustules, and more surrounding inflammation; subsequently, the formation of thick, brittle, yellowish, porous crusts, which are sometimes granular and mixed with purulent serosity: the hairs are glued together to a certain extent. This is true dermatitis of the hairy scalp; forming eczema impetiginodes, or rather impetigo of the hairy scalp.

3. True favus; fungi vegetating in the substance of the skin. Two forms:

*a*. Fungi projecting above the surface of the skin and epidermis; either isolated or grouped together and confluent. The vesicles arising from the secondary inflammation contain the elements of pus and epidermis. This is the porrigo favosa of Biett, the porrigo lupinosa of authors.

*b*. The fungi much smaller, remaining usually, though not always, concealed under the epidermis, which forms beneath them large expansions of confluent crusts. This is porrigo scutulata, vulgarly called ringworm.

#### ART. 33.—Treatment of *Pruritus Ani* and *Vulvæ*.

[The practitioner has often to regret the failure of his attempts to relieve these distressing affections. *Pruritus ani* may be of comparatively little importance, except as an indication of visceral or hæmorrhoidal disease, but *pruritus vulvæ* is of far greater consequence, as independently of other considerations it almost inevitably leads to habits of masturbation, amounting in some cases to *furor uterinus*. We have recently been consulted by three or four patients, one of whom avowed that the friction commenced for the relief of the itching, was continued for the gratification of the sexual sensation which it excited, and that in spite of a feeling of the utmost moral degradation, the act was repeated so frequently that the health was seriously undermined. The importance of remedial measures in such a case cannot be over-estimated.]

Dr. Tournie (*Union Médicale*) has contributed a paper on this subject, in which he states his great confidence in an ointment consisting of calomel and axunge, one part of the former to five or six of the latter; the parts after being well washed to remove any eczematous crusts, are to be anointed freely with this ointment twice a day, and afterwards sprinkled with a powder containing the



same proportions of starch and camphor. Dr. Tournie relates several cases in which he has thus succeeded after repeated failures with borax, sulphureous and other washes, most of which consisted of eczema or prurigo of the labia, and lichenoid eruption of the anus.

In the pruritus vulvæ of pregnant women, nothing appeared to be successful, but it subsides spontaneously after delivery.

[In pruritus ani we have derived great benefit from equal parts of Unguent. Gallarum and Unguent. Hydrarg. Fortius.]

*Provincial Journal*, April 18, 1851.

#### ART. 34.—*Abortive Treatment of Smallpox by Collodion.*

[When this fluid was first introduced to notice, we suggested, in a communication which was copied into some of our contemporaries, that it would prove valuable as an application to induce the abortion of the variolous pustule. We are therefore glad to observe, that in the hands of M. Aran, collodion has fully realized our anticipations.]

In the 'Bulletin de Therapeutique,' October 30th, M. Aran narrates the case of a youth who fell under his charge with confluent smallpox in an early stage. The face was thronged with pustules and was intensely swollen. M. Aran applied a layer of collodion. In two days the lobes of the ears and lips, which had not been covered, exhibited fully-developed pustules, while, under the collodion, the pustules were arrested. The application was several times repeated, and on the ninth day it peeled off together with the epidermis, leaving the skin of a rosy colour, and without pits. On the ears were several deep cicatrices.

*Provincial Journal*, April 2, 1851.

#### ART. 35.—*Muriate of Lime in Skin Diseases.*

Chloride of calcium is not employed much in medicine, but according to Cazenave 'Bulletin de Therapeutique,' 1850, it is a valuable remedy in struma, and diseases depending upon it. He has used it in lupus, in chronic eczema, and impetigo, in doses varying from fifteen to thirty grains per diem, in some vegetable decoction or infusion.

*Provincial Journal*, April 2, 1851.

### SECT. VIII.—MATERIA MEDICA AND THERAPEUTICS.

#### ART. 36.—*On Extractum Carnis.* By Dr. BENEKE.

(*Lancet*, Jan. 4, 1851.)

Dr. Beneke gives the following recipe for making beef-tea.

"One pound of lean beef, free of fat, and separated from the bones, in the finely chopped state in which it is used for beef sausages, or mince-meat, is uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid, after boiling briskly for a minute or two, is strained through a towel, from the coagulated albumen and fibrine, now become hard and horny. Thus we obtain an equal weight of the most aromatic soup, of such strength as cannot be obtained even by boiling for hours from a piece of flesh. When mixed with salt, and the other usual additions by which soup is usually seasoned, and tinged somewhat darker, by means of roasted onions or burnt sugar, it forms the very best soup which can in any way be prepared from one pound of flesh."

He states that he has often used this beef-tea, and from what he has experienced he cannot recommend it too strongly. In many diseased states it is not to be replaced by any other sort of food or remedy. He has administered it in

scrofula and phthisis, especially in those cases in which derangements of the digestive organs were present, such as ulcerations, dyspepsia, tubercular deposits in the intestinal glands, &c. He has given it in the early and later periods of typhus, and to patients suffering from inflammation of the cellular tissue, and rapidly wasting away in consequence of the most abundant suppurations, and there cannot exist a more rational remedy than beef-tea, to compensate the abundant loss of materials. He has finally given it in many other states which required a good nourishment by animal diet, and almost all patients who are convalescent from severe diseases are most beneficially influenced by it. He does not enter into a more accurate explanation of the effects of the beef-tea; it is self-evident that a substance, containing all constituent parts of the meat, both inorganic and organic, and not at all causing any exertion of the digestive organs to recombine into nutritive material, must be of such an effect as no other special remedy can be expected to manifest.

This being a fact, it appears to be most desirable, that the beef-tea, which the author calls *Liebig's beef-tea*, should be well known to every practitioner, and should be always given wherever the state of the patient requires a good animal, nitrogenous food. However, as he has often experienced, one meets in practice with many difficulties in having it prepared, or provided at all for the patients, especially in dispensary practice, where poverty appears with all its sad consequences and companions, and where so many cases occur, requiring a nourishing, strengthening treatment; in advising patients to take meat, beef-tea, &c., we hear them too often answering "we cannot afford it." In private practice, we find single persons confined to their bed-rooms, with scarcely any assistance at all; perhaps we order them to take the before-mentioned beef-tea, but it is beyond all possibility for them to have it prepared, as it requires some attention and carefulness. And even in family practice, it is necessary to describe each time the mode of preparing the beef-tea on the one hand, and questionable on the other, whether the attendants of the patient prepare it with that accuracy which is required for the accomplishment of our purposes. Hence, it appears as desirable as possible, to have an opportunity for easily providing patients of all classes with a sort of food and a remedy, which cannot be replaced by any other; and he therefore advises that the beef-tea be prepared at the chemists' and druggists' shops. It must be mentioned, that the above described beef-tea, when evaporated in a water-bath, and cooled afterwards, forms a brownish-yellow extract, and this extract, to which we may give the name of *extractum carnis*, should be prepared and kept for sale by chemists.

In accurately following the above-described method of preparing the beef-tea, the quantity obtained out of six pounds of meat may be evaporated to three ounces, and those three ounces, after having cooled, form the "*extractum carnis*." One ounce of *extractum carnis* is therefore equal to thirty-two ounces of meat, whence it can easily be calculated how much of it is required for providing a patient daily with the constituent parts of three, four, five, six, or more ounces of meat.

#### ART. 37.—*Cod-Liver Oil in Gaol Cachexia.*

By CALEB ROSE, Esq., F.R.C.S.

(*Provincial Medical and Surgical Journal*, Nov. 27, 1850.)

From the extensive trial which has been given to cod-liver oil, the profession is now able to form an opinion of the value of this medicine in certain diseases; and the author believes he is right in stating that those who have had large experience in the use of the oil esteem it a medicine of great utility. The diseases in which cod-liver oil has been found most beneficial are those which are termed scrofulous; and the author has found it so useful in a particular form of scrofula, that he has thought it might not be uninteresting to record the result of his experience in this form of disease. The form of scrofula to which he alludes is that to which prisoners are liable who have been for some considerable time confined in prison. Dr. Baly, in a very interesting article in the "*Medico-Chi-*

surgical Transactions," has shown that amongst prisoners who undergo a long term of imprisonment there is a high rate of mortality from tubercular diseases. In the last seven years the author has seen several cases of this scrofulous cachexia amongst the prisoners confined in the prison at Swaffham; and it appears to him to be different to the ordinary forms of scrofula met with in general practice. The men who have been the subjects of it have not been robust at the time of their entrance into the prison, but they were not at this time apparently suffering from scrofula or any other disease. They had all been in prison six months before symptoms of scrofula appeared; most of them eight months; and their term of imprisonment was twelve months, and in one case, the author believes, two years. The symptoms of the disease are these:—The man is observed to looker paler and thinner than usual; he is very much depressed in spirits; has no appetite for his food; sleeps badly at night, and that time, also, frequently has profuse perspirations; there is slight diarrhœa; the pulse is quick, irritable, and feeble. With those symptoms, the author has in every case found some of the cervical glands more or less enlarged, and, moreover, they continue to enlarge very rapidly. In the first five years three of the men died in prison, two of very rapid phthisis (one of them of sudden and large hæmoptysis), the third of tubercular peritonitis. The others who were seriously affected with this scrofula were discharged from prison before their proper time, and, I have since learned, recovered speedily after their liberation. Those who suffered in a minor degree were carried on to the end of their term of imprisonment by care and indulgence. Rather more than two years since we began to treat these cases with cod-liver oil, and with the best effects. As soon as a prisoner begins to show that marked deterioration of general health which is so likely to end in the development of scrofula, he is put upon the oil; and in every case the author has seen the man gain colour and flesh, and become restored to health. The two men who first took the oil had the cervical glands much enlarged (in one of them suppurating), and as they had still to remain some months longer in prison, it was thought that they must have been discharged before the end of their term; however, after taking the oil a month they improved steadily, and eventually left the prison at their proper time, in as good health as when they entered it. Since these two cases there have not been any so bad, as the oil has been administered in good time to those men who have shown that deterioration of health, which appears to be the commencement of scrofula; and certainly their health has apparently been entirely restored by this valuable medicine.

ART. 38.—*On the Value of Turpentine in Purpura.* By Dr. BUDD.

(Reported in the *Lancet*.)

[Dr. Budd relates the following case:—A female, æt. 65, of cachectic aspect, discovered a few days before admission, that her body and limbs had become thickly sprinkled with dark purple spots; she also observed that her urine was bloody, and in the course of the same day she became to bleed profusely from the mouth. Her stools were like soot. She had, in fact, become the subject of *purpura hæmorrhagica*. It would appear from her account, that these phenomena came on quite suddenly,—a fact not new to the history of the disease, but probably of some importance as to its pathology.

On the following day she grew rapidly worse. Blood flowed from the mouth without ceasing, and much was also voided in the stools and urine. On the 17th of May, she reached the hospital very faint and exhausted, having come on foot from her own house, about two gun-shots off. Within an hour after her admission I was summoned to her, as she appeared to be fast sinking. I found her in a state of alarming collapse. Her body and limbs were thickly covered with the characteristic ecchymoses, whose peculiar purple colour first gave the name to the disease. In the interior of the mouth, at a spot corresponding to the centre of the right cheek, there was a similar slough, nearly an inch long, and about half an inch broad. Blood was oozing very freely from under the detached border of all these sloughs. On the outside of the cheek was a large

bruise-mark, corresponding to the seat of the slough within. Numerous large blotches or bruise-marks of the same kind were plentifully scattered over the surface generally. In addition to these, the following particulars were noted in the course of the day: gums firm and of natural colour; stools sooty and like coffee-grounds; urine the colour of blood, highly albuminous, and throwing down, on being allowed to stand, a layer of grumous blood, occupying about one-sixth of the whole depth of the fluid.

Face pallid, without yellowness, and, with the exception of the large blotch already mentioned, free from ecchymoses.

Tongue and interior of the mouth much blanched.

Debility extreme; faintness on every change of posture; tongue tremulous; pulse 100, small and weak; no febrile movement; appetite tolerably good; thirst natural; no enlargement of liver or spleen; extremities cold.

Cough frequent; expectoration copious; sputa opaque, greenish, diffuent; physical signs of a high degree of emphysema, with catarrhal râles.

I ordered her to be put on a generous and varied diet, including meat and vegetables, milk, and eight ounces of wine.

In the shape of medicine, she was to take two scruples of chlorate of potash daily, and ten grains of extract of krameria, in a wine-glassful of the decoction of logwood, every four hours. My colleague, Mr. Morgan, directed the bleeding soughs to be "mopped" frequently with a dossil of lint soaked in oil of turpentine.

The effect of this measure was immediate. The bleeding ceased from the moment of the first application of the turpentine, and did not afterwards return; the sloughs soon came away, and in a few days, under the continuance of the same treatment, the sores were healed.

On the other hand, there was not the slightest check put to the other symptoms. The urine continue to be as much charged with blood as ever; the evacuations as black and sooty; and fresh ecchymoses made their appearance in great number from day to day. Wherever any, even the slightest pressure was made, a large bruise-mark was sure to be seen shortly after. The bodily weakness increased rapidly; and it soon became plain that, unless means could be taken to stay the loss of blood, the poor woman could not survive many days longer.

Matters being at this pass, on the 21st, after four days' trial, the chlorate of potash and astringents were given up as of no avail, and in lieu thereof twenty minims of oil of turpentine, in emulsion, were ordered to be taken every six hours. An immediate amendment followed the change of the plan. Before four doses of turpentine had been given all hæmorrhage had ceased. On the following day the urine was pale and transparent, free from albumen and every other trace of blood; blood ceased to appear in the evacuations from the bowels, and no new ecchymosis occurred on the surface of the body.

On the 28th, seven days after beginning the use of turpentine, the blood extravasated into the conjunctivæ had nearly disappeared, the spots over the body generally had much faded, and the patient had gained greatly both in flesh and strength. Her recovery suffered no interruption; and on the 21st of June she left the hospital much improved in health and condition.

[On this case Dr. Budd comments as follows:]

I shall not detain the reader from what he must already see to be the chief point of interest in the case just related, by any lengthened comments on the subject of purpura generally. Materials for the true pathology of this disease are as yet wanting, and it is not pretended that this case furnishes any addition to them. On this matter I will content myself, therefore, with a single remark. Purpura is no doubt correctly described as being, in the main, a disease of the blood. But, although the blood may be principally in fault, I think it is going too far to assume, as many do, that the altered state of this fluid is the *direct* and sole cause of its remarkable tendency to escape from the vessels. That it is in part the cause of this tendency, there is no reason to doubt; but that it is wholly so, is not proved. Although nothing of the kind has as yet been shown by direct observation, it seems to me more than probable that weakness of the vessels themselves, from defective nutrition of their walls, has a still larger share in the result. The symmetrical distribution of the ecchymoses is a fact which

is, on the whole, strongly in favour of this view. Did time permit, I could mention others, which seem scarcely to admit of any other conclusion.

Equally foreign to our present purpose would it be to enter at length into the question as to whether there be any relationship—pathological or other—between purpura and scurvy. To show that these two diseases are essentially distinct requires no laboured proof. It is enough to appeal to the striking contrast between them touching the circumstances under which they are known to arise. It has long been finally established, that the one and sole cause of genuine scurvy is prolonged absence from fresh vegetables. Persons even moderately supplied with fresh vegetables, or their expressed juices, never get scurvy. Persons ever so abundantly supplied with them may get purpura in its worst forms. The three most rapidly fatal cases of purpura I have ever seen, occurred in persons who for months before had lived chiefly on potatoes and greens.

In scurvy, fresh vegetables and their juices are a speedy and infallible cure; in the treatment of purpura, there is no proof that they have any efficacy beyond that which they possess as necessary constituents of a complete and wholesome diet.

These differences are fundamental; and it is clear that the two diseases to which they belong must be distinct in their very essence. Both may be characterised, more or less accurately, as diseases of the blood, and in both there is a peculiar tendency in this fluid to escape from its vessels; but here all similarity ends.

These considerations are, however, wide of our present mark. The interest of the case is, I need scarcely say, wholly practical, and lies in its value as a striking illustration of the styptic properties of the oil of turpentine. It would, of course, be highly unphilosophical to found any conclusions as to the efficacy of a remedy from the observation of its effects in a single case. The result which here followed so closely upon the administration of turpentine has, however, been observed before in other cases without number. In purpura, especially, its virtues have long been known. The late Dr. Whitlock Nicholl believed it to be quite a specific for this disease in its idiopathic form; and to judge from the case before us, he was not so far wrong. I may add, that since this case occurred, I have met with three others, in which hæmorrhage of various kinds and from various sources ceased at once, on the administration of turpentine, after other medicines had failed. The first of these was also a case of purpura; the second, a case of hæmorrhage from the nose and kidneys; the third, one of hæmoptysis, from tuberculous disease of the lung. In the last, the outpouring of blood was truly appalling. The patient had already coughed up more than two quarts (by measure) before the first dose of turpentine was given; and yet, in spite of this tremendous loss, the bleeding was still going on without check or abatement.

[Dr. Budd concludes his lecture by remarks on the general value of turpentine in various hæmorrhages. His experience is that of the profession at large.]

#### ART. 39.—*Beneficial Effects of Creasote in Diarrhœa.*

By MR. KESTEVEN.

(*Medical Gazette*, Feb. 7, 1851.)

The value of creasote in diarrhœa being little known, Mr. Kesteven places his experience of it on record; he does not, however, mention the forms of diarrhœa in which he has found it most applicable. The form in which he has administered it to adults has been as follows:—

R Creasoti, m. j. ad m. v.;  
Spir. Ammon. Arom., m. xv, ad dr. j;  
Aque, oz. j, ad oz. iiss.

Where pain has been severe, Tinct. Camph. Co. has been added. He informs us that in no single case has creasote failed to be of signal benefit; in most cases one single dose has sufficed to arrest the course of the disease; in very

few cases has it been requisite to administer more than the second dose. The remedy has been tried (to keep within the limits,) it may be stated, in considerably more than a hundred instances, and its effects can therefore be confidently affirmed. Mr. Kesteven does not assert that equal success will always attend its use; the circumstances of local influences, epidemic constitution of the season, may, he admits, somewhat modify its effects in other hands. He explains the action of creasote in diarrhoea to its power of coagulating albumen and other animal principles.

ART. 40.—*Therapeutic action of Coffee and Caffeine.*

By MM. VANDEN-CORPUT and HANNON.

(*Bulletin de Thérapeutique and Brit. and For. Med.-Chirurg. Rev.*, Oct., 1850.)

M. Vanden-Corput has recently published an article upon the febrifuge power of coffee, and especially its anti-neuralgic action, on which account it is now very much employed by the Belgian practitioners. Numerous therapeutical applications of this substance were made long since. Nebelius and Baglavi gave it in cephalalgia; Dufour prescribed it in phthisis and migraine. Willis employed it in narcotic poisoning; and Grindal and Dorpat as a febrifuge. Musgrave, Pringle, Monin, Percival, Laennec, and a great many others, have spoken of it approvingly in essential asthma. In Dutch Batavia it is used in strong infusion, with lemon-juice, in pernicious fevers; and the practice passing thence to Holland, has led to its being preferred there to quinine. Pouqueville declares it is infallible in the intermittents of the Morea; and Martin-Solon approves of its use in the adynamic form of typhoid fever. Dr. Guyot has recently strongly recommended it in pertussis. Besides medicinal properties, properly so called, it possesses the important one of disguising the taste of various substances, especially quinine, sulph. magnesia, and senna; and if its antiperiodic virtues really exist, it will probably favour the action of quinine instead of impairing it, as has been feared by some. It possesses the power, too, of developing the action of *haschisch*, contradictory as this may seem to its generally acknowledged anti-narcotic properties.

With *Caffeine*, prepared according to Liebig's process, M. Vanden-Corput produces various compounds. Thus the *citrate*, which is very soluble in water, is formed by saturating pure caffeine in a solution of citric acid, and evaporating; or it may be procured by exhausting crude coffee with a very weak solution of citric acid, shaking the liquor with an equal volume of ether, decanting it, and leaving it to crystallise after concentration. Twelve grains are added to 450 grains of sugar, and the mixture given in doses of twelve grains. The *lactate* may be prepared by dissolving caffeine in dilute lactic acid and evaporating, or by treating the infusion of green coffee with lactate of lime, filtering and evaporating. It may be given in sugar. The *malate* may be prepared in an analogous manner, and administered as a syrup by dissolving 4 parts of the malate in 30 of orange-flower water, and adding to it 250 of simple syrup. Caffeine may also be given with *hydrochloric acid*, as in the following formula:—Caffeine 7 grains, distilled water 1350 grains, strong hydrochloric acid 2 drops, syrup 225 grains. Dose, a table-spoonful.

M. Hannon speaks in the highest terms of the employment of the *citrate of caffeine* in *idiopathic migraine*. Ten grains are first made into as many pills, one of which is given every hour for some time before the paroxysm. The dose is gradually increased until relief is obtained; and in one case even half a drachm at a time was given. The dose must, indeed, be large in proportion to the obstinacy of the case and the length of time between the paroxysms. Large doses are also required in old, feeble, or cachectic patients; and in old cases the medicine must be long continued. It is desirable, when possible, to commence the medicine the evening before the expected paroxysm, when the entire quantity may be divided into several doses; but if it has been delayed until the commencement of the paroxysm, the whole quantity must then be given at once. The expected paroxysm may thus be entirely arrested or merely diminished in severity; but in all cases, where the disease is sympathetic, it eventually yields.

While upon the subject of *migraine*, we may mention a still pleasanter remedy than coffee, suggested by M. Taignot, viz., the making several *deep inspirations* in rapid succession. We must observe, however, that M. Taignot does not understand by the term *migraine*, simple neuralgia of the head, which many writers so designate: but the condition when this is accompanied by a state of physical and moral prostration, during which the blackest ideas assail the patient, —the “blue devils,” in fact, to which the English were once thought on the continent to be especially liable. During an attack of this, which from former experience he was led to believe would continue for twenty-four hours, he was induced by the hope that this condition of the nervous centres might result from a stasis of the blood in the sinuses of the brain, or from imperfect hæmatosis, to take several deep and rapid inspirations; and after a few efforts of this kind, he found himself completely relieved, and able to resume his former occupations. Other persons, similarly affected, have been in like manner relieved; but those who have tried the plan in simple neuralgia, have been disappointed.

## PART II.

# S U R G E R Y .

---

### SECT. I.—SYMPTOMATOLOGY AND DIAGNOSIS OF SURGICAL DISEASES.

#### ART. 41.—*On Dislocation of the Knee.*—By Dr. ADAMS.

(*Dublin Quarterly Journal*, Nov. 1850.)

[THE following case was communicated to the Dublin Pathological Society:]

John Hammill, aged 55, a farmer, a healthy, muscular man, of temperate habits, was admitted into the County Down Infirmary on the 16th of March, 1850, under the following circumstances. He states that on this day, while in the act of descending a ladder, it broke, and he fell from a height of about ten feet. He alighted on his feet, but was then thrown on his side by the force of the fall, and was unable to rise. On examination two hours subsequently, his condition was as follows. The left leg was a little flexed; the foot of this side, somewhat inverted, rested on the dorsum of the right foot; the upper extremity of the tibia and fibula had ascended in front of the lower part of the femur, and the anterior aspect of the patella looked rather upwards than forward. The posterior part of the condyles of the femur were distinctly felt resting behind the tibia and fibula (which last preserved its relation to the tibia). The outer condyle was especially prominent; the integuments covering the condyle being rendered so very tense that some laceration resulted. It was found impossible either to flex or extend the leg, nor could these movements be communicated; but some degree of lateral motion might be made by the hand of the surgeon. The patient complained of violent pain in the thigh and ankle, and on examination the latter was found to be severely sprained. The foot was cold and glazed, and was the seat of a painful sense of numbness; there was no trace of pulsation in the popliteal or tibial arteries; the muscles of the front of the thigh were very flaccid; a transverse deep sulcus marked the attachment of the extensor tendons to the top of the patella. On accurate measurement the limb was found to be shortened two inches; the circumference of the leg over the patella being two and a half inches; and over the centre of the calf of the leg, two inches and three quarters more than in the uninjured limb. The reduction was easily accomplished by extension and counter-extension, while Mr. Brabazon made methodical pressure, in opposite directions, on the extremities of the displaced bones. The limb was placed on a straight splint, and cold lotions applied; and within two hours afterwards the foot commenced to grow warm, and pulsation became established in the tibial arteries. In twelve hours there was considerable effusion into the joint, which disappeared, however, in a few days. On the sixteenth day passive motion and friction were resorted to. There was no constitutional disturbance throughout the progress of the case.

Dr. Adams, in remarking on this case, impressed upon the minds of his more youthful hearers, who might hereafter be called upon to deal with dislocations in distant parts of the globe, the great importance of taking casts of the different cases of dislocations which came under their observation, whereby one dislocation might be compared with another; and by this means the student would



make himself and others familiar with the "physiognomy," if he might use the term, of this class of accident. He would venture to assert that any person who has carefully examined the casts then presented to the society, would be able to recognise this form of dislocation of the knee at first sight, should he hereafter meet with a case of this kind, and merely from the peculiar expression or physiognomy the injury presented.

ART. 42.—*Diagnosis of Morbid Growths from the Upper Jaw.*

By PRESCOTT HEWETT, Esq.

(*Medical Gazette*, Dec. 20, 1850.)

The patient who was the subject of the following remarks was admitted into St. George's Hospital, under the care of Mr. P. Hewett, in May, 1848, with a large tumour, of an irregular shape, occupying various regions of the left side of the face. Presenting every appearance of having originated in the antrum, this tumour was found in the front and back part of the cheek, in the temporal fossa, in the orbit, and in the nostril extending to the back part of the pharynx; round in shape, but lobulated, it was firm and elastic to the touch, perfectly moveable, and in the nostril of a dead white colour and glistening appearance. The skin, conjunctiva, and mucous membrane of the nose were quite healthy, and no enlarged glands could be detected in any part.

The history of the case was, that six years previous to his admission into the hospital, the patient was troubled with a disease, supposed to be a polypus of the nose, which had been easily removed with the forceps; subsequently, however, the cheek began to swell, and the tumours gradually made their appearance in the regions in which they were found. All this had occurred without any pain, and with very little inconvenience. A year ago caustic had been extensively applied in two different places, large cicatrices marking the spot; this treatment had produced no effect on the disease, and no fungating growths followed the application. At different times there had been extensive bleedings from the nose, which had somewhat reduced the patient.

At a consultation of the surgeons of the hospital, it having been resolved that in all probability the disease was of the fibrous kind, and connected with the antrum, the removal of the upper jaw was decided upon. Dr. Snow administered chloroform.

The patient being seated in a chair, the operation was performed in the usual manner; but on removing the superior maxillary and malar bones, it was discovered that the disease was not connected with the upper jaw; it was altogether behind it. The larger portion of the tumour was dissected from off the pterygoid process, to which it was firmly attached. Those portions which were in the orbit and temporal fossa were removed without difficulty, being for the greater part simply connected with some very loose cellular tissue. The patient having become faint, was placed in the horizontal posture, and a small quantity of stimulant administered, after which he soon rallied. The portion of the diseased structure in the back of the nostril was then removed with a strong pair of curved scissors. The pulse having again failed, the patient was at once laid on a bed and carried into an adjoining room; different restorative means were made use of, and he appeared to rally somewhat; but shortly afterwards, as the breathing became embarrassed, an opening was at once made into the cricothyroid membrane; and, as a last resource, an attempt was made to carry on artificial respiration with a tube, but every effort proved of no avail; the patient soon died.

But few vessels were met with during the operation, and no great amount of blood was lost. Little or no bleeding followed the incision in the neck.

A careful examination of the bones removed during the operation showed that in the superior maxillary the antrum was all but obliterated, the posterior wall of the sinus having been forced, by the tumour lying behind it, against the anterior one; there was merely a chink left, the cavity of which was quite free, and lined by healthy mucous membrane; the malar was much more curved than

natural. The structure of both bones was perfectly healthy. The tumours were of a purely fibrous character. At the dissection of the body it was made out that the tumour had originated in the roof of the left nostril; its main point of attachment having been to the under part of the body of the sphenoid, and inner surface of the pterygoid process. Portions of diseased structure were still found in the sphenoidal sinuses, as well as at the upper and back part of the septum nasi. Some loose bits were also found deep in the temporal fossa, and at the back of the orbit; these were lying in the cellular tissue; they were all connected to each other by slender pedicles, one of which passed through a hole in the perpendicular portion of the palate bone; that in the orbit had reached this situation by creeping through the sphenomaxillary fissure. The bones were throughout healthy in structure. The tissue of the growth was purely fibrous.

The trachea and bronchial tubes, even to their minute ramifications, contained a quantity of frothy blood; the structure of the lungs was crepitant throughout, but each section presented numerous small dark spots of ecchymosis produced by some of the air-cells having been also filled with blood; these organs were otherwise free from disease. The heart was healthy; its cavities contained small black clots, but the greater part of the blood was thin and fluid, and did not coagulate on exposure to air. The other viscera were quite healthy.

In his remarks, Mr. Prescott Hewett principally drew the attention of the Society to the great difficulties which, at times, were found to exist as to the correct diagnosis of the precise region in which a tumour of the upper jaw had originated. Of these difficulties the present case afforded a good illustration. The history of the patient, and the various regions in which the tumour existed, had led to the conclusion that the disease, having sprung from the antrum, had gradually burst through the walls of this cavity, and thence spread to the spots where it was found. The operation and the subsequent dissection proved, however, that the antrum had not been the starting point of the disease. Mr. P. Hewett had little or no doubt that the morbid growth had first begun in the nostril, and had subsequently reached the pterygo-maxillary fossa, either by making its way through the sphenopalatine foramen, or by breaking down a portion of the palate bone. Once in the fossa, the subsequent progress of the tumour may easily be traced; it passed into the orbit through the sphenomaxillary fissure, and, in the face, it had in some parts made the bones yield, and, in others, it had so completely moulded itself to their shape, creeping over their cutaneous surface, that the outlines of the bones were scarcely discernible. Mr. P. Hewett's remarks were altogether confined to tumours of a fibrous character.

The morbid appearances observed about the lungs led Mr. P. Hewett to ask the question, whether the administration of chloroform was advisable in operations about the mouth where there was likely to be a certain amount of bleeding. He had no doubt that the blood found in the lungs had got there by passing through the glottis; and he doubted very much if such would have been the case had no chloroform been used. Many surgeons, fearing this accident, had of late not failed to condemn altogether the use of chloroform in these cases; but some, being unwilling to submit their patients to such serious operations without it, had adopted a middle course, administering this agent in the first steps of the operation only, hoping thus to avoid all risk. It remained still to be proved, however, whether, even with this precaution, there might not be danger in using anæsthetics in some operations about the mouth.

#### ART. 43.—On some Errors in Diagnosis. By M. DIDAY.

(*Gazette Médicale*, Mai 26, and *Lancet*.)

It is well known that in persons who have had syphilis, both the patient and his medical attendant are occasionally too apt to look upon certain conditions which may be altogether normal, or at any rate nothing more than varieties of the normal state, as the secondary or tertiary consequences of the disease. M. Diday has recorded all such mistakes committed by the patient or surgeon which

have fallen under his notice, and gives the following list of them. He has known :—

The grayish colour of the mucous membrane at the commencement of the urethra taken for a chancre at that point.

The enlarged papillæ at the base of the gland taken for vegetations.

The enlarged follicles of the scrotum for syphilitic pustules.

The mucus, the normal product of erection, for a gonorrhœal discharge.

The sebaceous secretion of the gland, and the discharge of the prostatic fluid after defecation, for the same disease.

The carunculæ myrtiformes for tubercles.

The clitoris (a fact scarcely credible, if the author did not affirm it from personal knowledge), for a mucous tubercle.

The folds bordering the ranine veins for syphilitic excrescences.

The glands at the base of the tongue for venereal pustules.

The glands existing at the point where the tongue joins on to the anterior palatine arch, also for venereal pustules.

The longitudinal fissure of the tongue for a tertiary fissure.

The folds of mucous membrane behind the superior incisor for excrescences.

The longitudinal projection of the palate, normal among many persons, for an exostosis.

The lateral deviation of the uvula, also normal among many persons, for disease of the facial nerve.

The lacunæ of the tonsils for chancres or gangrenous ulcers.

Some points of the palate, circumscribed by two or three vessels, for ulcerations.

The normal mucous follicles of the posterior wall of the pharynx for tubercles, and called by distinguished pathologists "follicular angina."

The caruncula lachrymalis for a vegetation.

The elevations on the back of the head, and even the condyle of the lower jaw, for the swelling of the posterior cervical glands, which announces the invasion of constitutional syphilis.

The normal projection of the inguinal glands for bubo.

The mastoid process for an exostosis.

Enlarged follicles of the skin for syphilides.

#### ART. 44.—*Symptoms and Diagnosis of Enlarged Bursa.*

By W. COULSON, Esq.

(*London Journal of Medicine*, Jan. 1851.)

The symptom which naturally first attracts attention, is the existence of an oval, colourless, elevated swelling, in an unusual situation. Should the surgeon happen to be ignorant of the previous existence there of an original bursal apparatus, for the protection of the integuments and for facilitating motion, he is at first lost in conjecture as to what the swelling may be. This has often happened. But aware of the existence of the superficial bursæ, and of the localities which they constantly occupy, the first glance at the case not unfrequently reveals to him all he requires to know.

Even when uncomplicated the enlarged bursæ, occasionally, though not uniformly, give rise to symptoms wanting attention in a history of these affections. A certain amount of inconvenience is often felt varying in intensity with the volume, situation, and condition of the swelling. The enlarged anconal bursa, for example, may attain a considerable size, and yet give rise to no more inconvenience than a slight sense of weakness after fatigue; even the patella bursa may be enlarged without proving troublesome to the patient. But in others, and then, perhaps, from the majority it is otherwise. Those in the hand, especially the carpal, cause a great sense of weakness; they are unseemly, and the deformity becomes so unpleasant to the patient, as to induce him to request the removal of the swelling at all risks. In like manner those over the malleoli deform the foot, and cause other inconveniences. Much lameness often accompanies the

enlarged bursa patellæ, whilst the enlargement of the bursa over the first joint of the great toe, produces, not unfrequently, the most intense suffering. Inflammation and suppuration follow; and death has been known to supervene from such a course when injudiciously interfered with by the surgeon.

A knowledge of the course of the tendons will enable the surgeon to discriminate between an enlargement of a superficial bursa, and that more troublesome and dangerous affection, the enlargement of the deep or profound, and he will regulate his treatment accordingly. Of these the author does not propose to speak at present, but confine his remarks to the system of the superficial bursæ. These swellings interfere with the free use of the limbs in which they happen to occur. The integuments may inflame and suppurate, and in this condition the case may for the first instance be brought to the surgeon.

If neglected now, they cause intense suffering. The cause of the pain is not uniformly the same. In the enlarged bursa over the great toe, for example, considerable pressure may be endured, provided a corn has not happened to be induced by that pressure over the enlarged bursa. When this happens, the pain becomes intolerable, and is seemingly disproportioned to the other symptoms and appearances; but it is well to know this, for the partial removal of the corn by the knife will often give immediate and great relief. A very usual symptom is a tingling sensation running down the limb, often attended with tenderness on pressure.

The position of the enlarged popliteal bursa necessitates a careful diagnosis; it may be mistaken for abscess, or for other still more dangerous affections. It is sufficient merely to caution the surgeon on this point.

The detection of enlarged bursæ in the axilla, and the discriminating them from other diseases, will occasionally require great attention on the part of the surgeon.

Enlargements of the superficial bursæ have frequently, no doubt, been confounded with encysted tumours; their sequelæ also present difficulties in the way of a correct diagnosis, to be overcome only by a careful observation and history of the case.

Enlarged bursæ may be either simply enlarged, or the enlargement may be accompanied with inflammation and all its usual appearances.

Erysipelas may arise in the course of the disease; or at least œdema of the superficial fascia or cellular layer in which the bursæ are situated.

*Pathology.*—The morbid anatomy of this system of organs has not been made the subject of any extensive researches. What has been observed amounts to this: the contained fluid, which in health merely bedews the surfaces of the sac, increases in quantity and alters more or less in quality. Originally, perhaps, more complex than chemists suppose (such at least seems to have been the opinion of Schreger), it may undergo further changes, as a result of chronic or acute inflammation. At times, the fluid resembles the outer layer of the crystalline lens, or the vitreous humours; that is, it partakes more of the character of a semi-solid than of a liquid; at other times it is much more fluid, or it is more serous, obviously less abounding in albumen.

The semi-fluid substance has sometimes a yellowish appearance, at other times a reddish hue; sometimes it is very fluid, of a dark, dirty colour; the product, no doubt, of an inflammatory action. The sac may be wholly obliterated, or its walls so greatly thickened and condensed, as to represent a solid tumour; or the enlarged bursæ may show a dropsical character, with softening of the inner membrane, perforations, and enlargement of the traversing tendinous cords. The absence of many of these bursæ may depend, no doubt, on their obliteration, in early years from blows, pressure, or other accidental violence.

The morbid appearances found in connexion with the enlarged bursa of the great toe, have little or no reference to the smaller bursa itself, but to the deformity caused by the simultaneous displacement of the metatarsal and digital bones of the toe. Nevertheless, when, by a separation or spreading out of the distal end of the metatarsal bones, the head or extremity of the first metatarsal bone becomes so prominent on the inner side of the foot as to be mistaken for an osseous tumour, the integuments passing over it become much attenuated in those cases where the deformity occurs in the adult. If congenital, or occurring

in early years, no such attenuation happens. The bursa itself, on dissection, presents a variety of morbid appearances. According to the progress made by the displacement of the metatarsal bone, and of the phalanges of the toe.

The ligaments also undergo changes; but the author has never observed the formation of accidental bursæ amongst their fibres.

Fungous growths have been seen growing from the inner surface of enlarged bursæ; and ill-conditioned sores are also sometimes present, depending partly on the nature of the surfaces affected, and partly on the constitution of the patient.

ART. 45.—*On Intracapsular Fracture of the Neck of the Femur and the Rotation of the Limb inwards.* By P. BEVAN, M.D., &c., Dublin.

(*Dublin Quarterly Journal*, Nov. 1850.)

The author's attention was attracted by a slight rotation inwards of the thigh in the body of a female, aged 50, which was received in the school for dissection.

The great toe rested against that of the opposite side; the limb was shortened by about half an inch. The trochanter major was not as prominent as natural, and the fold of the nates was flattened and slightly lengthened. No other deformity appeared until pressure was made on the heel, when the shortening increased to  $1\frac{1}{2}$  inch; and as the limb became shortened, it rotated inwards of itself to such an extent that, when unsupported by the opposite foot, it lay flat on the inner edge; and if raised from the table, a still greater degree of rotation was permitted; in fact, the toe could be made to describe nearly a semicircle, the heel being thus placed in front and the toe behind. During even moderate rotation, the upper part of the thigh had a remarkably twisted appearance. Rotation outwards was permitted to its natural extent; and whilst in that position a projecting line was observed extending from the anterior spine of the ilium to the trochanter major, evidently caused by the tensor vaginæ femoris and the anterior edge of the gluteus medius muscle. Extension and flexion were normal; and no crepitus could be felt, whether the limb was extended or not. When elongated, the distance from the trochanter major to the anterior spine of the ilium measured, when rotated outwards, 5 inches; when rotated inwards,  $3\frac{1}{2}$  inches; in its shortened state,  $4\frac{1}{2}$  inches and 3 inches; whilst the distance between the same points on the opposite side measured, when rotated outwards, 4 inches and when rotated inwards, 3 inches. Thus, the trochanter was more distant from the spine of the ilium on the injured side than on the sound side by half an inch in its shortened, and by one inch in its lengthened state. The distance from the trochanter to the crest of the ilium was, in the shortened state of the limb, nearly one inch and a half less than on the opposite side.

From these measurements it appears that the trochanter was placed above and behind its natural position, especially when rotated outwards, its distance from the spine of the ilium being from  $4\frac{1}{2}$  inches to 5 inches on the injured side, whilst it was only four on the sound side, the distance of the trochanter from the crest being at the same time diminished.

On dissection, the small rotators outward on the back of the hip were found to retain their natural attachments to the digital fossæ, and all the other muscles of the thigh were perfectly unaltered, except the anterior edges of the gluteus medius and minimus, which were somewhat thickened.

On raising the muscles, the capsular and accessory ligaments were perfect, but very much thickened throughout their entire extent. Before opening the capsule, it was observed that when the bone was pressed upwards, the trochanter major passed upwards and backwards towards the dorsum ilii, and thus rendered tense the anterior part of the capsular and accessory ligaments. No fracture was yet apparent.

On opening the capsular ligaments, it was found that the neck of the bone had been entirely absorbed from its head to its attachment to the shaft; the opposite surfaces were transverse and regular, and connected to each other by a few long bands of soft lymph, which were smooth, soft, shining, and totally destitute of a fibrous character. No new bony deposit had taken place, either on the head or

shaft, nor was there any fluid in the joint. The synovial membrane was coated with lymph to a great extent, and thus had lost its polished appearance. The head of the bone was lodged in the acetabulum, and scarcely projected beyond the brim. It moved very slightly when pressed on, which must have arisen from a thickened state of the ligamentum teres, as there were no adhesions between it and the acetabulum. The case was, therefore, one of intra-capsular fracture of the femur, of long standing. After quoting the experience of various authors upon the *causes* of rotation inwards, and showing their inapplicability to the present case, the author suggests that the neck of the bone being absorbed, the several rotators outwards, whilst they lost the principal part of their power as rotators, carried the trochanter above and behind its natural position. They thus rendered tense the rotators *inwards* and the anterior part of the capsular ligament, and increased their power, so as to enable them completely to overcome the remaining rotators outwards. In fact, the phenomenon depended on the altered action of the rotator muscles: the one set lost their proper function, and instead of it, assisted their former antagonists—the rotators outwards, and by drawing the trochanter backwards, indirectly aided the rotators inwards.

Besides assisting in discovering the cause of rotation inwards, this case appears valuable by showing the difficulty in diagnosing between fracture and luxation on the dorsum of the ilium; and proves that the diagnostic signs laid down by systematic authors are incorrect and not to be depended on. The only ones on which we can rely are the ease with which we can rotate outwards, the greater mobility of the limb, and the power of lengthening it by a moderate force, in fractures, when compared with luxations.

In the same subject there was also a fracture of the humerus on the same side, partly within, partly without the capsular ligament, with absorption of bone to the extent of one inch and a half; all the other bones were perfectly healthy.

#### ART. 46.—*On the Diagnosis of Fracture of the Fibula.*

M. Maisonneuve communicated to the Society a means of diagnosis which seemed to him to be infallible in cases of submalleolar fracture. This consists of the following proceeding. If the injury be in the left leg, the four fingers of the left hand embracing the anterior and internal face of the tibia, the thumb of the same hand is made to press forcibly on the post border of the fibula, a little above the external malleolus. The four fingers of the right hand are at the same time applied to the sole of the foot, while the thumb is made to press against the summit of the internal malleolus. On exercising an alternate forcible pressure with each thumb, it will be found that when the right thumb is pressed on the malleolus, the left thumb, being placed higher, feels distinctly the upper fragment of the fractured bone; then, by discontinuing the pressure, the fractured end of the bone returns to its former position, and is no longer felt projecting.

*Surgical Society of Paris, Jan. 15, 1851; Medical Gazette, Feb. 7, 1851.*

#### ART. 47.—*On Rupture of the Ligamentum Patella.*

W. C., æt. 48, admitted into the Royal Free Hospital, complaining of an affection of the knee-joint, the result of a violent muscular effort. He had been subject to rheumatic gout; and while labouring under an attack, five weeks since, he was, when intoxicated, suddenly seized with an excruciating pain in the right knee; and being on the point of falling, he made a violent muscular effort to save himself. At this moment he felt something snap in the knee, and fell. Sickness and fainting came on, and he could not regain his feet; the limb swelled; the patient was carried home; and from that period to the day of admission he had not left his bed.

It is extremely likely that in ruptures of tendons from muscular effort, and even in some fractures, certain alterations of texture may have had their share in the accident, the violence of the effort being of course the exciting, and the pathological change the predisposing, cause. It might, for instance, be inquired whether, in this case, the rheumatic diathesis had not had some influence on the modification of the intimate texture of the ligament. Such alterations are ad-

mitted on all hands to occur in the cancerous diathesis, malacoosteon, &c. Mr. Gay's patient complained, on his admission, of much pain in the joint; he was pale, weak, and irritable, and evinced, by a profuse salivation that some mercury, which he had taken a short time previously, had had a full effect. The femur was much arched outwards—a deformity which had existed long before the accident—the knee was swelled, the normal conformation of the joint effaced, and some effusion existed above the patella. Pressure on the joint gave pain, and beneath the patella a hollow was noticed, which admitted the finger transversely; there was considerable thickening around and below this point, and near the tubercle of the tibia. These appearances suggested the idea of a fracture of the patella, with the fragments drawn asunder; but on examining that bone, its perfect outline could be traced with great facility; it might be moved laterally in various directions, and even slightly upwards. No crepitation could be discovered; and the firm, rounded, tense ligament, very distinct on the sound limb, was not felt below the affected knee. Mr. Gay, taking all these symptoms into consideration, formed the opinion that the ligamentum patellæ, or rather the tendon of insertion of the rectus muscle, had given way at the moment of making the violent muscular effort.

This diagnosis was supported by a case of a somewhat similar character, which had been observed by Mr. Jackson. The patient had been seen soon after the accident, and presented all the characteristics of the injury. He had, namely, missed his step during a dark night, and was propelled suddenly forward; in his attempt to regain his equilibrium, he had violently strained his knee while falling. At first sight the case looked like one of fractured patella, the upper and lower fragment, and an intervening space, being so well marked; but these appearances, on a careful examination, were found to be below the patella, which bone was found movable and free, the changes below the same being the consequence of effusion around and below the ruptured portion of ligament. Both this case and Mr. Gay's patient were treated as for fractured patella, and both recovered with some deformity, the result of considerable thickening around the joint; and they experienced impeded motion and weakness of the limb for a considerable period.

Cases of ruptured tendon like those above mentioned may be confounded with fractured patella, and though the treatment does not differ much, still it is proper that the exact nature of the lesion should be ascertained. The outline of the patella being well defined, the absence of crepitation, the mobility of the bone in various directions, the hollow below it, and want of form and resistance in the ligament, will be sufficient signs that the solution of continuity has taken place, not in the patella, but in its ligament. Boyer even states, that when this rupture has taken place, and that the leg is extended, the integuments may be pressed down transversely into the groove, which separates the condyles of the femur from the tibia, and the crest between the articulating surfaces of tibia be felt by the finger.

*Lancet.*

ART. 48.—*General Remarks on the Diagnosis of Tumours of the Neck.* By Dr. REDFERN.

(*Monthly Journal of Medical Science*, Dec. 1850.)

This always presents great difficulties when the tumours are of large size, only slightly painful, and fluctuate indistinctly. If a complete and accurate history of the case cannot be obtained, more than a general diagnosis may be unattainable; but when the precise position of the tumour at its commencement can be made out, when its relation to the larynx and trachea, and its mobility in regard to them and the surrounding parts can be ascertained, together with the rapidity and manner of its growth, there will be little difficulty in arriving at a satisfactory conclusion.

A tumour developed in the substance of the thyroid body presents itself in the front of the neck, is usually larger on one side than the other, is firmly connected with the larynx and trachea, moves freely with the larynx in deglutition, and

when it is displaced laterally by manipulation. The other features vary with the nature of the tumour.

In ordinary bronchocele the swelling is soft, projecting, and elastic, without fluctuation, pain, or tenderness on pressure; it occurs in early life in the female sex, and in particular localities; it is simple in its nature throughout, and presents no tendency to degeneration of structure; it does not interfere with respiration or deglutition, nor does it affect the patient's health or comfort till it reaches a large size.

In cystic diseases of the thyroid, the nature of the tumour becomes manifest sooner or later, by the presence of fluctuation in one or more cysts, by a glairy, serous, or sero-sanguineous fluid escaping upon puncture with a grooved needle, the fluid containing no cell formations, by the formation of the tumour taking place after the middle of life, by its slow and painless growth, and by the slight inconvenience caused by it, until it reaches a large size.

In cancerous diseases of the thyroid, the tumour appears from forty to sixty-five years of age, is of great density, and generally painful; it is rapidly developed, and may attain a large size in a few months. It occasions great difficulty of breathing and deglutition from an early period, and the aspect and complexion indicate a malignant disease.

In medullary cancer the tumour is less uniform in its consistence.

Enchondromatous tumours are recognised by their density, slowness of growth, and absence of any sign of tension in surrounding tissues.

ART. 49.—*Fracture of the outer Condyle of the Humerus, which was so displaced as to simulate dislocation of the head of the radius forwards.*

(Reported in *Medical Times*, Jan. 18, 1851.)

A lad, *æt.* 6½ years, sustained a severe injury to the left elbow-joint. There existed at the front and outer part of the articulation a considerable eminence, which, on examination, was found to be the outer condyle displaced considerably upwards and forwards, so as to have the appearance of the radius when dislocated in the latter direction. There was considerable pain and swelling in and about the joint, so that it was impossible to replace the fractured portion. The extremity was placed in an angular splint, a bandage very lightly applied from the forearm upwards to the arm, and the application of cold lotion recommended. He met with the accident by being pushed down while playing with some of his companions, and falling on the outer part of the elbow. He was picked up by two women, who, recognising some deformity in the joint, industriously set to work and manipulated rather roughly, in order to remedy it. The day following the accident the contour of the joint was uniform, owing to the considerable inflammation that had supervened. It became necessary to have free recourse to leeches on three or four separate occasions, their application being followed by the constant use of cool, evaporating lotions. On the thirteenth day the inflammation had entirely subsided, the lotion was omitted, and the arm kept quiet in the angular splint. A large quantity of plastic effusion appeared to have taken place in and around the joint; the displaced condyle alone appearing prominent, and having so *primæ facie* a resemblance to a displaced head of radius forwards, that many who saw the case came at once to that conclusion. On grasping the hand of the patient, however, and carefully rotating the radius inwards or outwards, with one hand, and pressing with the fingers of the other on the prominence in front of the elbow-joint, the movements of the radius were not found to be transmitted to that projection. A week after the subsidence of the acute attack of inflammation, the limb was bound up in cerat., hydrarg., compostum, &c. The application was renewed every fortnight during the period of eight weeks. The splint and bandages were then laid aside, and passive movement of the limb enjoined; the elbow having been found to have regained its normal dimensions from the absorption of the plastic effusion, and the displaced external condyle having become consolidated with the shaft of the bone. The condyle was found to have been displaced to the extent of three-eighths of an inch from its natural relation with the internal condyle, as evidenced by the measurement of the space



between the internal and external condyles of the opposite arm. The ultimate result of the case was in every respect more satisfactory than could have been expected from the serious nature of the injury, and the severe inflammation that ensued on it; for, several months after the accident, and this patient's dismissal from the hospital, it was found that the forearm could be all but extended; that flexion could be performed to an angle of  $45^{\circ}$ ; and that rotation inwards and outwards of the forearm were perfect.

*Remarks.*—Fracture of the outer condyle of the humerus, though not so frequent as of the internal, is by no means rare; but it is not usual to meet with cases in which the deformity from displacement is so great as in the case above detailed, and the fractured portion so displaced as to resemble a dislocation of the radius forwards. When displacement does occur, as we ordinarily meet with it, it is generally slight, capable of easy remedy, and the periosteum and soft parts in immediate attachment have not been so far lacerated and injured as to be incapable of retaining *in situ* the displaced portion when reduced. In this instance, on the contrary, from the original violence of the injury, the severe manipulation the patient had been subjected to after the accident, and the consequent inflammation, the reduction of the condyle could not be effected. A very guarded prognosis was given; and, in order to give the bone every chance of uniting, the limb was kept unmoved during eleven weeks, at the end of which time it was found that consolidation had taken place. Ultimately, the movements of the joint were but little interfered with, which in all probability would not have been the case had passive movement been had recourse to earlier. In cases of extra-capsular fracture not involving the joint, the prognosis is always favourable, and the union safe and speedy. Of intra-capsular fracture, the displacement is generally slight, but the union more tedious and less certain than in the former case, requiring longer time for the limb to be kept in splints, and frequently terminating in mere ligamentary union, this result being often the consequence of passive movements having been had recourse to at too early a period after the injury.

Under the most favourable circumstances, the reunion of the condyle with the shaft from which it has been separated, when the fracture extends into the joint, and is accompanied with displacement, is very tedious. Another case of this kind is under care in a healthy lad between ten and eleven years old. The limb has been carefully kept in an angular splint during six weeks. A careful examination, however, detects that only ligamentous or fibrous union has as yet taken place.

ART. 50.—On Strumous Urethritis. By SAMUEL WILMOT, M.D., F.R.C.S.

(*Dublin Quarterly Journal*, Feb. 1851.)

The symptoms of this affection, as given by the author, are constant discharges of thin whey-like fluid, and scalding on micturition. These symptoms are increased by drinking spirits, sexual intercourse, or exposure to wet, cold, and fatigue. In some cases acute inflammatory symptoms ensue without obvious cause. If the patient be questioned, he generally states that he never had gonorrhœa, or so long ago as to preclude the idea that the symptoms are connected with it. On examination of the urethra, the first thing which attracts notice is a pouting of the lips of the orifice, which is not circular, as in gonorrhœa, but appears as if flattened laterally. The mucous membrane, as far as it can be seen, is highly vascular, and granular; resembling what is known as a granular condition of the conjunctiva. The same condition probably extends throughout the urethra.

Dr. Wilmot regards this affection as essentially strumous, and believes that it is frequently the result of gonorrhœal gleet. If allowed to proceed unchecked, the bladder often becomes engaged, its irritability is increased, and it secretes pus.

The urine in general is neutral; its colour is of a slight milky hue, and a slight albuminous deposit will often occur. The albumen may arise simply from the admixture of pus with the urine; or it may be the consequence of

renal disease. To determine which of these is the true origin, Dr. Wilmot passes a catheter into the bladder, and examines the urine drawn off. This proceeding excludes the mixture of pus from the urethra.

The treatment recommended is the occasional introduction of a bougie smeared with some astringent ointment. He also employs stimulant and astringent injections. The constitutional treatment must be anti-strumous, as iodide of iron combined with extractum conii, nitro-muriatic acid in sarsaparilla, and sea bathing. Balsams and turpentine aggravate the complaint.

ART. 51.—*On Stricture of the Rectum.—Its Symptoms and Diagnosis.*

By J. S. HUGHES, M.D., &c.

(*Dublin Medical Press*, Dec. 11, 1850.)

Strictures of the rectum have been divided into *simple* and *malignant*. Under the foremost head have been included *spasmodic* or *functional*, and permanent or organic strictures. Under the latter *sclirrhous*, *lardaceous*, and *fungoid* degenerations.

The simple organic stricture of the rectum usually sets in very insidiously, the patient's attention being, generally speaking, attracted to the disease by the frequent desire to go to stool; and when there, after much straining, he passes but a small quantity of feculent matter of small calibre; often he passes nothing but wind and bloody mucus. After a time the obstruction becomes more pronounced, constipation is obstinate, and a well-marked fullness is detected in the sigmoid flexure from lodgment of fecal matter above the obstruction. In some of these cases the obstruction has become so complete, that the patients have died with symptoms simulating those of strangulated hernia, in which cases timely surgical relief might possibly have prolonged life.

Although the symptoms of stricture of the rectum usually set in very insidiously, yet at other times the patient appears to be aware of the moment of the first attack; for as Mr. Colles says, "he will tell us that, without any previous illness, the bowels at a certain period *suddenly* became costive; that for the purpose of relieving them, he took large and repeated doses of physic for three, four, or five successive days; that at length his bowels *suddenly* gave way, and a very severe purging took place, which having continued for a day or two, was then succeeded by those symptoms which attend the disease when fully formed."

As the disease advances, the straining at stool becomes increased, the discharges of mucus and blood from the rectum become more profuse. After a time an agonizing pain is experienced after each evacuation, proving the existence of acute inflammation in the diseased part, which now not unfrequently runs into ulceration. At this stage an abscess in connexion with the stricture of the rectum occasionally forms, which, bursting near the anus, degenerates into a fistula in ano. Here the abscess is the result of irritation or ulceration, and it may open in more than one place, forming numerous fistulous openings in the neighbourhood of the rectum. In the male these abscesses have at times opened into the urethra, and in the female into the vagina. In some cases in which these fistulæ have been mistaken for and treated as uncomplicated fistulæ in ano, the incisions have *not* taken on a malignant character, a proof of the disease being non-malignant.

Sometimes the patient, in the advanced stage, will be suddenly seized by fatal peritoneal inflammation, the result of ulceration and infiltration into the peritoneal cavity—a distressing case of which Dr. Hughes witnessed some time since.

Such are the symptoms of the organic stricture of the rectum, but as most of these symptoms may be met with in conjunction with other affections of that intestine, we are not justified in pronouncing any case as one of stricture, until by a manual examination we have detected the *positive* existence of the disease. In all these cases, therefore, we should pass the index finger of the right hand, previously well oiled, into the rectum; and should the case be one of organic stricture, we shall, in the great majority of cases, come into contact with the

obstruction as soon as we have introduced our finger as far as the second joint into the gut. However, if we cannot feel the contraction with the finger passed to its fullest extent, we shall generally be enabled to do so, by making the patient force down, as if he were at the water-closet. When the finger arrives at the stricture it is suddenly arrested in its course by a narrowing of the canal, the diseased part feeling like a hard ring, which, if at all, will in general barely admit of the entrance of the point of the finger. When, however, in the very early stage, the finger can be pushed through the diseased part, the gut above the constriction will be found healthy to the touch.

Although the organic stricture of the rectum is usually met with in the lower part of the intestine, still in some rare cases it has been met with higher up.

In stricture of the rectum, especially when seated near the sphincter muscle, we often possess an external evidence of the disease, which was first dwelt on by the late Mr. Colles, and which, when present, is a very remarkable one, namely, "at each side of the anus is observed a small projection, which on its external surface appears as a mere elongation and thickening of the skin, but internally present a moist surface, not exactly like the lining membrane of the gut, nor yet can one say that it is ulcerated. These two projections lie close together below and divaricate above, presenting a resemblance to the mouth of a ewer. Whenever this external appearance exists, I feel almost certain of finding a stricture of the rectum before the finger is pushed as far as the second joint into the gut. In some cases, however, this external mark has not been present."

In the organic stricture of the rectum, the constitution, sooner or later, becomes implicated; but the period at which the local disease entangles the general health, differs much in different cases; thus, the author has known the affection to exist for two, three, and even five years, without the general health becoming seriously impaired; whilst, on the contrary, the constitution may sympathize after the local complaint has existed but for a few weeks. When the constitution becomes affected, the patient's appetite fails, he loses his flesh, he becomes irritable in temper, and desponding; his pulse becomes small and rapid; profuse night-sweats set in, which are often preceded by chills; in fact, hectic fever becomes established; under which circumstance, the patient may linger for twelve or eighteen months, but at length he sinks under the disease, his constitution being completely worn out.

Although stricture of the rectum, in general, admits of examination by the touch, and is accompanied by such well-marked symptoms, that it is not likely to be mistaken by an experienced surgeon for any other affection; yet, as there are certain diseases which might by an inattentive observer be confounded with it, it is but right that the author should here point them out, together with their distinguishing characters, in order to prevent so serious an error in diagnosis.

The first, and by far the most important, is the cancerous or malignant disease of the rectum. Bush, Mütter of Philadelphia, and others, describe three forms under which the malignant stricture of the rectum exhibits itself, viz., the scirrhus, lardaceous, and encephaloid; but of these, the variety most frequently met with is the scirrhus. Here the surface becomes of stony hardness, and is often nodulated; here the disease, instead of surrounding the gut, as in the simple organic stricture, often spreads along one side of the intestine only. In the malignant disease, a profuse and very offensive smelling sanious discharge takes place from the ulcerated or fissured parts dividing the tubercles; and here the patient complains of a burning and lancinating pain in the seat of disease and down the thighs. Here the local sufferings are greater, and the constitutional symptoms set in earlier than in the more simple form of stricture, and the patient's countenance soon assumes that leaden hue peculiar to cancerous affections. There are also other forms of cancer which might possibly be mistaken for stricture of the rectum; as, for instance, cancer of the uterus. In such cases, however, a proper examination will at once elucidate the true nature of the disease.

An ulcer of the rectum might be mistaken for a stricture of that intestine in its early stage; but in the former case, the educated finger will generally at once detect the presence of the ulcer by its cup-like centre and hardened edges; and

should the finger fail in pointing out the true nature of the affection, the ulcer will often be brought into light by means of the rectal speculum.

A relaxed state of the rectum has been, by superficial observers, mistaken for stricture of the gut; the relaxation being accompanied by obstinate constipation, a frequent desire to evacuate the bowels, and occasionally with the passage of mucus and blood. When a manual examination is made in a case of relaxed rectum, the finger comes in contact with a fold of the gut, but here there is an absence of the circular or ring-like obstruction met with in stricture of the rectum.

Polypus of the rectum might be mistaken for stricture of the gut.

An enlarged prostate gland is mentioned as having been mistaken for stricture of the rectum; a proper examination, however, will soon point out the seat of disease.

Although a great deal has been said and written on the subject of spasmodic stricture of the rectum, many of the highest modern authorities, amongst whom may be included the late Mr. Colles, doubt the existence of such a disease. The author never saw a *distinct* case of it; there is, however, a spasmodic condition of the superficial sphincter ani muscle, which has been confounded with stricture of the rectum, more particularly from its being accompanied by discharges of feculent matter diminished in calibre; which latter symptom is, however, as may easily be observed, often present in many other diseases besides stricture of the rectum. Care should be taken, therefore, in making a thorough examination of the patient before confidently pronouncing him to be labouring under this formidable complaint; for there are cases on record that prove that the man who has been hastily told that he has a stricture of the rectum, leads a wretched life, there being a great difficulty experienced in persuading him to the contrary.

## SECT. II.—NATURE AND CAUSES OF SURGICAL DISEASES.

ART. 52.—*Injury to the fifth and sixth Cervical Vertebrae.—Paraplegia and Anæsthesia of the inferior half of the Body.—Recovery in 6½ months.*

(*Guy's Hospital Reports, and Med. Gaz., Jan. 3, 1851.*)

Edward Slade, æt. 38, was admitted into the Accident Ward, Guy's Hospital, under the late Mr. Key's care, January 16th, 1849. He states that, on the day of his admission, whilst conveying some empty sacks from one warehouse to another, he fell from a plank, on which he was walking, to the ground, a distance of about thirty feet, and says he pitched on the back of his head and shoulders, —a statement which was confirmed to some extent by the condition of his clothes. He was immediately carried home (a short distance from where the accident happened) in a state of insensibility; and, on recovering a short time after, he was unable to move his lower extremities.

In appearance he is a strong, muscular man, of dark complexion; his face is somewhat flushed, and the respiration is diaphragmatic; skin warm and moist; pulse 60, full, and rather labouring; all power of voluntary motion is entirely lost in both lower extremities, whilst sensation is very imperfect as high up as the umbilicus; but there is more in the left leg than in the right; there is also slight paralysis of his left superior extremities, as well as partial priapism.

On examining the neck, a considerable protuberance was found corresponding to the fifth and sixth cervical vertebrae, in which situation there was also extreme tenderness and swelling; and, after a careful examination, Mr. Hilton detected distinct crepitation of a bone.

His fæces were passed involuntarily; the urine required to be drawn off by means of a catheter, was found to be acid, and natural in other respects. He appears quite collected when spoken to, and answers questions rationally.—*Pil. Colocynthis* c. Cal., gr. xv. statim c. *Cucurbitulæ Cruentæ* Nuchæ ad 3viij.

18th.—Sensation is returning in the inferior extremities, but he complains very much of a sense of tightness and oppression at the *scrobiculus cordis*; it is quite

free from pain about the seat of injury; face rather flushed; skin hot, but perspiring; pulse 60, full and labouring. Mr. Key gave an unfavourable prognosis, stating, that cases of this sort, which seem to recover for a time, generally die from the effects of softening of the spinal cord; he ordered the patient to continue in the recumbent posture on his back, and to keep his neck perfectly quiet; the catheter to be introduced daily as often as required; to have low diet.—Hyd. cum Cretâ, gr. v., bis die.

25th.—Sensation is now quite perfect in the right inferior extremity; it has also decidedly improved in the left, but is still rather imperfect. The power of voluntary motion is somewhat improved; and in this circumstance the right limb has also the start of the left. He complains of pains in his superior extremities, in which sensation is perfect, but the movements of the limbs are very feeble.

Feb. 3d.—During the last two days he has been complaining of pains shooting down the outer side of the left leg towards the heel, including the distribution of the musculo-cutaneous nerve, with slight tenderness on pressure; ankle somewhat swollen; can move his right leg, but not his left; sensation perfect in both. Fearing the formation of bed sore, he was ordered to be placed on an air bed; and ordered wine, 3vj.

On the 30th of April he had regained partial power over the sphincter line. He was allowed to sit up daily and exercise his lower extremities. General health much improved. Urine less alkaline, and containing less mucus. The bladder is washed out occasionally.

July 4th.—Can walk pretty firmly with the assistance of a small stick, and has perfect command over both his sphincters; is quite free from pain or uneasiness in any part; and after being enjoined to keep quiet for a time, and take great care of himself, he was discharged from the hospital.

This patient again presented himself at Guy's, December 15th, 1850, very nearly two years having elapsed since the accident. States that he felt very weak for some months after leaving the hospital, when he gradually regained his strength and powers of motion up to his present standard; but for twelve months past there has been little or no alteration. Says he can now walk about his house without any assistance; yet, out of doors, he generally requires a stick, and by the aid of this he can walk a mile without much inconvenience; on exceeding this distance he suffers from pain in the course of his spine, commencing between the scapulæ and extending down to the sacrum, attended also by a sense of heat, which he compares to sitting with his back before a large fire. Occasionally, when sitting, but more frequently whilst walking, he feels a sudden desire to pass his water, but on attempting, finds he is unable to do so immediately; and it is with considerable difficulty that micturition can be accomplished. He generally passes his urine twice, though sometimes only once, in twenty-four hours. His bowels are generally constipated, frequently for a week together, so that he constantly requires to take laxative medicines; and defecation is never accomplished without considerable muscular effort.

He has never regained that power in his upper extremities which he enjoyed previous to the accident. The movements of the lower extremities are much improved, though still imperfect. The right side of the body is much stronger than the left. Sensation is quite perfect in both legs, whilst the temperature on the left side is generally less than on the right, although occasionally, after remaining quiet for a time, he has discovered that both lower extremities were unnaturally cold without his being previously aware of it. On examining the former seat of injury, the spine of the fifth and sixth cervical are not more prominent than natural, neither does it cause him any uneasiness on firm pressure being made. Flexion and extension of the neck are performed naturally, and he can turn the head to either side without inconvenience.

On considering the various consequences of injuries to the cord, we shall find that whether it be lacerated, or even divided, or compressed either by displaced bone, or extravasated blood, or disorganized from severe concussion, there is no material difference in the symptoms which may arise; and it is on this account that a diagnosis immediately after the receipt of the injury, is frequently attended with so much obscurity and uncertainty. The seat of injury can, however,

it was stated in general, be easily determined, when the paralysis is marked, by bearing in mind the anatomical distribution of nerves coming off from the different parts of the cord, and associating this knowledge with the muscles which have become paralysed, and the extent of surface which has lost its sensibility.

It is seldom, however, the lecturer observed, that we meet with cases of injury to the spinal cord, especially occurring so high up in the neck, as even slightly to affect the sensation and motion of the upper extremities, and at the same time presenting such unmistakeable symptoms of severe local injury, as existed in the case which preceded these remarks, proceeding at last to a favourable termination—a result which was quite unexpected by all who saw him at the commencement; for on considering the height from which he fell, and having noted the marked protuberance of the spinous processes at the seat of injury, with distinct evidence of that crepitation so peculiar to bone, there could be no doubt but that one or more vertebræ had been fractured; and, judging from the complete paraplegia which existed, and the sudden manner in which it came on after the injury had been sustained, there seemed every reason to fear either that laceration of the cord had taken place, or that portions of the fractured vertebræ were at that time making pressure upon it. When admitted into the hospital he was not in that state of collapse in which patients are usually seen after such severe accidents, whilst the respiration, it will be observed, was diaphragmatic. Mr. Key throughout regarded the case as one of fracture; and notwithstanding the apparent improvement at the commencement, expressed his belief that it would terminate unfavourably from the effects of softening and disorganization of the cord,—an event which it seems probable was warded off by the antiphlogistic course of treatment adopted at the commencement, especially the exhibition of mercurials, until the system became gently under its influence; whilst on the other hand, his age was such as to favour any reparative process which might have been required, or to promote the absorption of any blood which might have been effused.

Some difference of opinion exists among surgeons respecting the propriety of depletion; and cases undoubtedly do frequently occur in which bleeding, either general or local, would be improper, or even decidedly injurious; but in general, when the age, habit of body, constitutional powers, and condition of the patient, admit of such a step, the lecturer stated that he should feel inclined to adopt the practice very generally followed by Mr. Key,—that of local depletion,—for the double purpose of relieving congestion in the vessels of the injured part, thus diminishing the tendency to further effusion of blood, also as a means of preventing inflammation of the membranes of the cord, which not unfrequently takes place. The remaining treatment was necessarily that of other mechanical injuries, especially maintaining the injured parts in a state of complete rest; whilst, when the urine assumed that irritating and offensive character so common in these cases, and containing such a large quantity of stringy mucus, great comfort and benefit were unquestionably afforded to the patient by frequently washing out his bladder with tepid water by means of a syringe, the catheter being always introduced twice or thrice daily to draw off the urine.

During recovery, it will be observed that the different organs regained their natural functions in the same routine that is usually met with. Sensation first became established; after a time the sphincters slowly resumed their wonted action; the bladder regained its power, and soon after the urine acquired a more healthy character. The respiration became more perfect, the abdomen was less tympanitic, and, last of all, the extremities gradually recovered their power of voluntary motion. It will also be noticed that, in the recovery both of sensation and motion, the right side was considerably in advance of the left, leaving us to infer that those particular segments of the cord furnishing sensation and motion to the left side of the body, were more severely implicated than those on the right.

On the third day after admission, it may be seen, on referring to the report, that the patient's skin was very hot, though perspiring, but without the cardiac circulation being at all accelerated. This increase of vital temperature, however, cannot be regarded as a good example of those cases occasionally met with, in which a remarkable evolution of animal heat forms a very prominent symptom.

ART. 53.—*On some of the Causes of Ununited Fracture.* By JOHN ADAMS, Esq., Surgeon to the London Hospital.

(*Medical Times*, April 12, 1851.)

In a clinical lecture on ununited fracture, Mr. Adams remarks, that the causes preventing the consolidation of bones after fracture are various; they may all, however, be ranked under two heads, namely, general and local. In regard to local causes, he states, the idea has often crossed his mind, that injury to the nutritious arteries of the bones may have some influence in the prevention of the consolidation of bones. But to this notion it may be objected, that non-union may happen in fracture occurring in any part of the shaft of a long bone, whereas the nutritious artery is found only in one spot. He has, however, with this impression in his mind, made an examination of the nutritious arteries in seven humeri and six femora, taken indiscriminately, and has been much struck with the variation in number and situation of these openings for the transmission of the nutrient arteries, that they vary in number, from one to four; and there is also a remarkable difference in their position and size.

*Nutritious Arteries of the Humerus, and their Measurement in Distance from Head of Humerus.*

|       |   |             |                      | Humerus. |                     |
|-------|---|-------------|----------------------|----------|---------------------|
| No. 1 | 4 | foramina .. |                      | 1st.     | 3 3-10 in. large.   |
|       |   |             |                      | 2d.      | 5 1-5 in. small.    |
|       |   |             |                      | 3d.      | 6 6-10 in. small.   |
|       |   |             |                      | 4th.     | 8 1-10 in. large.   |
| No. 2 | 2 | "           | } From same subject. | 1st.     | 4 3-10 in. small.   |
|       |   |             |                      | 2d.      | 7 6-10 in. large.   |
| No. 3 | 2 | "           |                      | 1st.     | 2 2-10 in. small.   |
|       |   |             |                      | 2d.      | 7 2-10 in. large.   |
| No. 4 | 2 | "           | ..                   | 1st.     | 6 8-10 in. large.   |
|       |   |             |                      | 2d.      | 7 3-10 in. smaller. |
| No. 5 | 2 | "           | ..                   | 1st.     | 2 8-10 in. large.   |
|       |   |             |                      | 2d.      | 7 in.               |
| No. 6 | 1 | "           | ..                   | 1st.     | 8 5-10 in. large.   |
| No. 7 | 3 | "           |                      | 1st.     | 3 8-10 in. small.   |
|       |   |             |                      | 2d.      | 5 7-10 in. large.   |
|       |   |             |                      | 3d.      | 7 5-10 in. small.   |

*Measurement of Nutritious Artery in Femur from Trochanter Major.*

|       |   |             |                           | Femur. |                            |
|-------|---|-------------|---------------------------|--------|----------------------------|
| No. 1 | 2 | foramina .. |                           | 1st.   | 2 in. small.               |
|       |   |             |                           | 2d.    | 5 in. large.               |
|       |   |             |                           | 3d.    | 10 5-10 in. very small.    |
| No. 2 | 3 | "           | ..                        | 1st.   | 5 5-10 in. large.          |
|       |   |             |                           | 2d.    | 6 6-10 in. very small.     |
|       |   |             |                           | 3d.    | 10 5-10 in. ditto.         |
| No. 3 | 1 | "           | ..                        | 1st.   | 7 in. large.               |
| No. 4 | 2 | "           |                           |        |                            |
| No. 5 | 4 | "           | } Both from same subject. | 1st.   | 5 6-10 in. large.          |
|       |   |             |                           | 2d.    | 9 in. large.               |
|       |   |             |                           | 1st.   | 2 1-10 in. small anterior. |
|       |   |             |                           | 2d.    | 5 5-10 in. very small.     |
|       |   |             |                           | 3d.    | 10 2-10 in. large.         |
|       |   |             |                           | 4th.   | 12 2-10 in. very small     |
| No. 6 | 2 | "           | ..                        | 1st.   | 6 4-10 in. large.          |
|       |   |             |                           | 2d.    | 10 8-10 in. small.         |

Whether any importance is to be attached to this table, in regard to non-union of fracture, the lecturer is not prepared to say, as he has had no opportunity of testing it by examination after death; but he thinks that it is a matter of some importance in the investigation of this subject. Mr. Curling, in a note to a Paper published in the 20th volume of the 'Medico-Chirurgical Transactions,' has made an allusion to the subject of the variation in number and situation of the nutritious arteries of the humerus and femur, as bearing upon the question of atrophy of bone after fracture; although in this paper no reference is made to this circumstance in explanation of non-union of fractures of the shafts of long bones.

ART. 54.—*On the Effects of Concussion of the Spine.* By JOHN GRANTHAM, F.R.C.S.E.

(*Medical Gazette*, Jan. 24, 1851.)

The spinal column, considered mechanically, is weakest at the convex portion—that is, in the upper part of the cervical vertebræ, and from the tenth dorsal to the third upper lumbar vertebræ; the ten upper dorsal vertebræ are particularly defended from the influence of shock or fracture by the ribs and sternum, but when there is a yielding in the dorsal vertebræ, it will be found to occur at the centre of the arch or greatest convexity of that portion of the spine, which is between the fifth and sixth dorsal vertebræ. The purport of this paper is to detail the symptoms and effects of a shock of the spinal column. Concussion is conveyed to the spine when the patient falls from any height; whether the fall be on the head, or feet, or side, the back will receive a proportionate amount of the injury.

The first symptoms will be an inability, with pain, of movement in some part of the muscular structure pertaining to the spinal column. It is in the intervertebral structure of the spine where the first effects of lesion take place; and it would be enough for Mr. Grantham to direct the eye of the anatomist to the strong mechanical arrangement of the bones and ligaments, when it will be at once perceived how admirably the bodies of the vertebræ are held together, so as to render it almost impossible for any movement to take place apart from that of a general yielding. It will now be readily seen, that should inflammatory action be commenced in this structure, (intervertebral,) and the body be allowed to remain in the erect position, pressure will be made on the seat of injury, pain will be felt, and *waste must ensue*; and for the sake of rendering this statement more evident, it may be well to consider the nature of the intervertebral substance. It is lowly organized, having neither vessels nor nerves; the cellular tissue does not become apparent; this cartilaginous structure contains a great quantity of water or serous fluid; according to Beclard, "In the adult man the proportion of water which they contain is to the solid substance as two and a quarter to one." The cells of this cartilaginous structure are very different from those occurring elsewhere in the animal organization,—they are irregular in size and shape; in the condensed margin of the intervertebral structure, the cells are compressed, and lie with their long axes disposed parallel to the surface. It is said cartilage does not readily become atrophied by pressure. The author presumes this observation must have the condition stated—namely, when in a normal state; but if otherwise, or according to Bichat's nomenclature, it be "organically sensible," then he inferred atrophy or waste would be the result of pressure, as the reparative law of this structure would necessarily be imperfect, as every morbid phenomenon must in this structure be characterized by a remarkably slow progress; that inflammation must, as in bones, assume a chronic type, and should a cartilage be divided, in contradistinction to the skin or muscles, it closes instead of separating; the edges of their sections are drawn together; they never distend or lengthen. The absence of ossification in cartilages proceeds solely from the laws relating to the nutrition of bones. Here nature has placed the limits for the exhalation of the calcareous phosphate, as she has also restricted to the origin of a tendon the exhalation of fibrin. The nature of the articulation of the vertebræ is of a mixed character, named Amphiarthrosis, partaking of the nature or Synarthrosis, in having the articular surfaces united by means of an intermediate substance, and of that of Diarthrosis,



in having a considerable extent of mobility. Therefore, should the primary symptoms of concussion of the spine be unobserved or unattended to by either the patient or surgeon, partial paralysis will ensue, and be succeeded by complete paralysis below the injury or seat of lesion; the difficulty of movement will increase, until the formidable character of the malady will be evident to the most common observer; and, on examination, it will be found there will be an angular curvature of the spine, which can only arise from defect in the intervertebral substance.

Secondly. The assimilative laws of life will be functionally deranged. MM. Becquerel and Rodier state there is invariably a marked diminution of the quantity of the blood-corpuscles in the blood in injury of the spinal cord. The author has found in such injuries an elimination of the triple phosphates with the oxalates in the secretion of urine. The most important indication in the treatment of such cases is to relieve the injured part from the superincumbent weight of that part of the spine above the seat of lesion, by attention to the general health, and by an active *continued* application of counter-irritation to the region of pain. The author is an advocate, and has had some experience in the use, of the prone position as a mode of giving rest to the spine. He ventures to affirm four months is generally long enough to effect whatever good perfect rest of the spine can produce; but the most important and most difficult measure to be adopted at this part of the treatment, is being enabled to give the spinal column that kind of mechanical support which may be so applied as to gradually regulate the return of pressure, and at the same time to be sufficient for maintaining the erect position of the body for the restoration of the previously lost muscular support.

It is much to be regretted the great expense of the apparatus needful for these cases prevents their more frequent use; and may it not be narrow policy on the part of our rich hospitals that such cases are considered inadmissible, unless application is made soon after the injury is received?

There is one question which remains unsettled in the minds of the profession,—viz., is it possible to have anchylosis of the bodies of the vertebræ without caries? If so, when the intervertebral structure becomes absorbed, then ossific matter will necessarily be generated without fracture,—a fact of great importance as regards the favourable issue of lesion of the intervertebral cartilages. This question bears some analogy to the one regarding the union by bones of fracture through the neck of the femur.

The more the author reflected on the necessity of removing pressure or weight, when there may be any injury pertaining to this lowly-organized structure, and maintaining a protracted state of quiescence in the early part of the treatment of concussion of the spine, the more was he convinced of the great importance of attending to this juncture.

*ART. 55.—Contused and Lacerated Wound of the Rectum from a fall.*

By E. W. TUSON, Esq., F.R.C.S.

(*Lancet*, April 26, 1851.)

On the evening of the 26th of October, the author was sent for to see a patient, in whom, upon examination, he found that the external sphincter ani muscle had been torn through; that the rectum had been lacerated, both at its anterior and posterior boundary, the wound extending to more than an inch towards the os coccygis, being deeper at the fore part of that bone than at other parts of the laceration; anteriorly it extended more than half an inch, but the urethra was quite free from injury; there was prolapsus of the mucous membrane of the rectum, which presented a lobulated appearance. The patient was forty-two years of age, and occasionally of an irregular mode of living. The accident had happened by his falling (while he was getting through a trap-door in a loft) upon the post of a French bedstead which had a knob at the upper end, which must have entered the rectum through the sphincter ani; the patient then falling to the ground, the knob of the bedpost lacerated the sphincter and rectum, reflecting a portion of the nates, on the right side, to an extent of some inches

laterally. The whole wound presented a very formidable appearance, which the prolapsus ani increased. A question arose,—What plan of treatment should be pursued? Should a portion of the wound be brought together by sutures, or not? It was impossible to bring the whole of the wound together without closing the anus. The author resolved to return the prolapsus, which was done with some difficulty, but it protruded immediately after the fingers were removed; and as its reduction caused considerable pain, and as it was evident that owing to the division of the sphincter, it could not be retained in its natural situation, no further attempt was made. The anterior and posterior parts of the wound were next brought together by two sutures, one being placed between the anus and os coccygis, and the other between the anus and scrotum; water dressing was next applied, a graduated compress, and a T bandage. There had been some loss of blood, which had stopped before we examined the wound. An opiate was given to the patient. On the following morning it was found that he had passed a very restless night. He complained of pain in his chest, over the region of the heart, also at the pit of the stomach; the skin was dry; tongue furred and clammy; pulse 80, feeble, intermittent, and compressible. He was allowed a glass of port wine and water, some beef-tea during the day, and was ordered a draught, composed of solution of acetate of ammonia, half an ounce; decoction of bark, one ounce; compound tincture of cardamoms, one drachm; to be taken every six hours.

On the third day after the accident the wound sloughed, the sutures were torn through, and the whole of the exposed surface presented a very unfavourable appearance. The sloughing portions were dressed with a solution of chloride of carbon, half a drachm to eight ounces of water; warm water dressing applied; a compress and a T bandage. He was to take mock-turtle soup, some game for his dinner, and about five or six glasses of wine in the course of the day. Ordered decoction of bark, an ounce and a half; tincture of bark, one drachm; aromatic confection, one scruple, every six hours, with a pill of one grain of opium. The following day the slough evidently extended. The patient had passed a very bad night, was delirious; the hand was unsteady, and he suffered much in his chest. Delirium tremens was added to the sloughing of the wound. Four grains of quinine every four hours; a pill of opium, also every four hours, was taken, and a grain of muriate of morphia at night. The quantity of wine was increased and some bottled stout ordered. This plan produced a change for the better: some sleep at short intervals was procured, and a few days afterwards the sloughing part began to separate, healthy granulations appeared at some places, but the slough towards the anus still remained. The same plan of treatment was followed, excepting the opium being so frequently taken, and a marked improvement was apparent.

Up to the eighth day the bowels had not acted. A pint of gruel, with two ounces of castor-oil, was given as an enema, which was retained. On the ninth day, the injection was repeated, but it soon returned unchanged. An aperient draught was ordered to be taken the last thing at night, and the injection on the following morning produced a free evacuation. The prolapsus completely sloughed, and also the whole surface of the wound, at some places to a small extent, at other parts to a greater depth. The wound gradually contracted, and at the end of seven weeks he was quite well. The motions passed freely without pain, and he was able to pursue his usual occupation without any inconvenience.

It was interesting to watch the progress the wound made after the slough had separated, and it was doubtful what the condition of the parts would be when completely healed. The muscular fibres of the sphincter muscle have united; and it was remarkable that Nature restored this muscle with its normal power, particularly after so much of the muscular fibres, both at the anterior and posterior part of the wound, must have been removed. The prolapsus was also cured by the sloughing of the mucous membrane, which removed all appearance of any projection, and when the wound had healed, the parts were in a natural condition. The wound was brought together by sutures, for the purpose of preventing the edges becoming everted, also for producing a degree of support to the prolapsus, so as to prevent a greater portion protruding.

**ART. 56.—Case of Obstruction of the Bowels, caused by swallowing a Leadon Bullet.**  
By G. V. CUMMING, M.D., Garrison-Surgeon, Vizagapatam.

(*Edinburgh Monthly Journal*, April, 1851.)

Among the families of the garrison an interesting case occurred. A boy, aged 11, named Dixon, son of a European pensioner, was admitted into hospital on the 15th of October, 1850, complaining of pain in one spot of the abdomen—a little below and to the left of the umbilicus—and which, he said, was occasioned by his having inadvertently, two days before, swallowed a piece of lead with which he had been amusing himself. The portion must have been of considerable size, as, in describing it, he said it was nearly as large as a half-rupee, but thicker, consisting of two leaden pencils, which he had melted into what he called a flat bullet. On the lead slipping down the pharynx he was nearly choked; but the mother, who happened to be present at the moment, said, that by rubbing the throat and upper part of the neck with her hands, she succeeded in forcing it downwards. Instant relief was now experienced; but next morning the pain in the abdomen, of which he complained on admission, commenced. In the hope of expelling or facilitating the descent of the bullet, a dose of castor-oil, with a few drops of laudanum, was at first prescribed, and a few leeches were applied to the pained part, as a precautionary measure. Next morning, though the bowels were several times relieved, the pain, still in the same spot, seemed rather worse; but it was scarcely increased on pressure. The oil was now repeated, and hot fomentations were ordered. Several dejections were again obtained, but otherwise no perceptible benefit accrued. In the space of two days, however, the pain shifted its seat to midway between the umbilicus and the os pubis, showing that the bullet had gone lower down; the pain was also more diffused, occupying a space about the size of a watch. Slight fever now existed. Obstinate constipation also soon occurred, which, for nearly three days, resisted the frequent administration of croton-oil, pills of calomel, colocynth, and scammony, two doses of jalap, and the use of active purgative clysters. Prior to the action of these medicines on the bowels, excessive irritability of the stomach set in, almost every fluid taken being immediately rejected, and the pyrexia previously noticed still continuing. Two days afterwards, however, the febrile heat was succeeded by an opposite state of the system,—one of great depression. Cold clammy sweats existed, and he had also frequently-recurring, but not severe, convulsive fits, each being easily removed for the time by dashing a little cold water on the patient's face. Under these circumstances the remedies chiefly resorted to were artificial heat and diffusible stimuli to rouse the system, effervescing draughts, and one or two doses of creasote to allay vomiting, with anodynes at night, sinapisms, and subsequently a blister to the epigastrium. To the abdomen hot fomentations were from the first sedulously applied. The pulse, previously thready, became latterly so weak, that any attempt to raise the head was apt to induce syncope. Cramps, too, of the hands and feet supervened, and constipation again existed. In short, the symptoms were such as to excite an apprehension that poisonous effects from the lead had at last manifested themselves. The sulphate of soda, therefore, was given in solution for two days in small frequently-repeated doses, along with a few drops of the tincture of henbane, but seemingly without any improvement, although several scanty evacuations were procured. Twelve days had elapsed since the patient's admission, when the idea fortunately suggested itself to the author, that in the event of the bullet being obstructed in its farther descent by any accumulation of hardened feces, which the previous purgatives might not have removed, the introduction into the rectum of O'Beirne's tube might have a happy effect. The fixed pain at this period was situated just above the pubis. In the absence of the regular instrument, the elastic tube of Read's stomach-pump was inserted, and, with some difficulty, pushed up twelve inches, so that it must have passed through the greater part of the sigmoid flexure of the colon. Warm water was now freely injected, and a remarkably copious stool, nearly filling a chamber utensil, and presenting scybala, was the result; but the bullet could not be found in the dejection. In the course of the day he passed another stool,

containing a lumbricus, but without the bullet. Next morning the fixed abdominal pain had entirely gone. A dose of turpentine was now exhibited, and he passed at stool another worm, but still no trace of the bullet. On this day he had only two of the convulsive fits, which were the last. Under the use of wine and light nutritious diet, with no other medicine than merely a vegetable tonic, and one or two purgatives, he rapidly improved in appearance; and on the 6th of November, twenty-one days after his admission, he was discharged from the hospital quite well, excepting that he was a little weak. In this case the author's impression is, that the bullet must have passed at stool, either in the large evacuation obtained directly from the use of the tube, or in the others which succeeded it; but that, from the examinations not having been made with sufficient care, it escaped detection. Had the dejections been merely thrown out, subsequent attempts might have discovered the bullet. It seems, however, that, agreeably to the usual practice, they were all cast into the backwater, situated directly in the rear of the hospital, and thus removed.



Since the author wrote the above, the boy has presented him with a bullet, made by himself at his request, which, he, says, in size and shape, is very similar to the one which he had swallowed. Of this, the drawing given in the margin conveys an accurate idea. It is a quarter of an inch in thickness.

### SECT. III.—NATURE AND TREATMENT OF SURGICAL DISEASES.

#### ART. 57.—On *Gonorrhœa*. By Mr. CHIPPENDALE.

(*Lancet*, Feb. 22, 1851.)

In a paper on this subject, the author remarked, that those who, for any lengthened period, have enjoyed the inestimable benefit of an extended field of observation, and who have duly availed themselves of so great an advantage, are aware that there are many diseases, concerning the origin and propagation of which they have occasionally a difficulty in reconciling the facts which come under their notice with the commonly received opinions. Among these diseases he classes gonorrhœa. The results of civil practice, he observed, are not of a nature to enable one to arrive at accurate conclusions; and it is only from the military practice in small towns on the continent, where all the inhabitants are known to each other, that satisfactory inquiries can be pursued. Such advantage the author had formerly possessed, and the conclusion he has drawn is, that gonorrhœa, for the most part, is not, as is commonly supposed, contracted by infection. In illustration of this position, he described the occurrence of gonorrhœa, after protracted intercourse, following a debauch, the victim using cold ablutions to the part to prevent infection. This he regards as a case of mucous membrane highly excited, and suddenly submitted to a depressing agent, which would naturally induce inflammation and a muco-purulent secretion, with all the attendant symptoms of gonorrhœa. As a counterpart to this, Mr. Chippendale next described the occurrence of a cold in the head, caught by exposure to a draught of cold air while heated. He says,—We have here two cases so far parallel as the dissimilarity of the organs affected will admit, in which we have a like disturbance set up by causes which are similar, though not identical. The author then sought to prove the spontaneous origin of gonorrhœa, by stating that in numerous cases of that disease among the French soldiery, the women with whom they had connexion were found, on examination to be free from disease. Two cases were also given of married men, who, after drinking too much wine, and having protracted intercourse with their wives, had gonorrhœa. One of these cases, the author said, was fraught with suspicion, for the patient had had connexion with another woman about a week previously. With the other nothing of the kind had occurred. To these Mr. Chippendale

added the case of a lad, about sixteen years of age, suffering from gonorrhœa, caused by onanism; and that of a boy, in whom the same disease was produced by passing the head of a pin down the urethra. Another case of gonorrhœa happened in a child five years old; but the cause could not be discovered. The author next expressed his surprise that virus could be effectually lodged in the urethra, because during connexion that canal is closed by pressure, while the lubricating secretion of its mucous membrane serves to defend it from noxious agencies, while the completion of the sexual act is of such a nature as to cleanse away all adventitious matter from the canal. Again, the author doubts the lacuna magna being the seat of the disease, and thinks it not improbable that there is frequently, although not always, an ulcer in that situation. He next proceeds to examine the alleged causes for orchitis and ophthalmia, and, discarding them, regards gonorrhœa as of a rheumatic character, and those sequences of the disease as instances of genuine metastasis, and to strengthen this opinion, cites the occasional occurrence of gonorrhœal rheumatism. With respect to treatment, copaiba and cubebs he considers to act through the blood, and must be given at the commencement of the attack, or else they are of no avail. The author has observed that the disease lasts the longest in the young, and that the period of its existence, other things being equal, diminishes as individuals advance in life.

ART. 58.—*Remarks on Hernia. Operations without opening the Sac.*

(*Medical Gazette*, Jan. 24, 1851.)

The subject of hernia is a most important one to the practical surgeon; and there is no class of cases which requires so much study and investigation. The affection is one which is so common, and so likely to be brought under his notice at any period, in its most difficult and dangerous aspects, that he is bound to make himself acquainted with its nature and treatment, and with the various circumstances which so frequently obtain, to modify both. It at first sight appears somewhat surprising, that there should be so much difficulty connected with an apparently simple subject, and that there should have arisen so much controversy upon the most effectual modes of combating the dangers which are induced when a patient is labouring under a strangulated hernia; for upon no one subject, perhaps, has so much been written as upon this. The writings of Cooper, Pott, and Lawrence, with many others, bear testimony to the laborious investigation which these eminent men have been engaged in to ascertain the precise nature of the affection, and to simplify the treatment of it both by operation and other means. This surprise, however, ceases when we come to see the disease at all on a large scale; for then it is we find that there are no two cases exactly alike; and that, in one case after another, circumstances obtain or arise which the surgeon has not noticed before, or has altogether forgotten; and he accordingly finds that he is compelled to modify his mode of operation and his subsequent plan of treatment, according as the singularity or gravity of these circumstances is met with. Thus it is that he who wishes to make himself well acquainted with the pathology of hernia, and with all the circumstances which are constantly interfering to modify its treatment, should not miss the opportunity of observing every case which may fall in his way. It may be stated as a great probability, that, with every fresh case, something new will be learned. Hence we consider a faithful and accurate report of all individual cases of hernia to be most especially useful. More, of course, will be learned by the actual ocular observation of such cases; nevertheless, an attentive observer will add to his store of knowledge by reading the records of such when he cannot see them for himself.

The point which has been of late, and is now, mostly under discussion, is as to the propriety and expediency of performing the operation for strangulated hernia without laying open the sac. Other matters connected with the treatment of the affection—such as operating at an early period after strangulation, not using too prolonged taxis, and refraining from the employment of powerful aperients too early after the stricture upon the gut has been relieved—have been

satisfactorily settled in the minds of all judicious surgeons; but the one point under consideration is that just mentioned, and it is likely to agitate the minds of practitioners for some time yet at all events, until a larger mass of well-recorded cases of hernia treated by the two separate methods of operating with and without opening the peritoneal cavity shall be brought home to the profession. It must be confessed by all those who have paid any particular attention to this very important subject, that the data are not yet sufficient to justify the surgeon in coming to anything like a correct conclusion as to which is the safest and best mode of operating generally; nevertheless, the researches of Key, Luke, Gay, and Hancock have contributed much to enlighten the profession on this matter, and the minds of surgeons are thus imbued with the necessity of considering every case of hernia with extreme care, before they determine upon the manner in which such and such a case should be treated. The feeling is gaining ground that the operation without opening the sac is applicable to very many cases of strangulated hernia, where a few years ago the peritoneum would have been opened without the least consideration, and supposedly as a matter of necessity; that also the danger of the proceeding is much lessened, if so delicate and easily inflamed a structure as the peritoneum is not meddled with. Experience has already amply shown the truth of this; but, on the other hand, it cannot be denied that there are many good surgeons who look upon this mode of operating not only with great suspicion, but who consider it to be both unsatisfactory and more dangerous than when the sac is opened, its contents brought into view, and the condition of the parts well ascertained before they are returned into the abdomen. Those who are advocates of the former method urge as arguments in its favour, the great danger of peritonitis where the membrane is cut into and the intestine itself is rudely handled: in fact, the circumstance that in almost every case which is fatal after the ordinary operation, a greater or less amount of inflammation of the peritoneum and its consequences is found; and hence the immunity which obtains when a simple incision is made through the overlying textures. Those who oppose this plan urge—and justly too—that it is not applicable to a great number of cases, and that there must always be an extreme difficulty in selecting those to which it really is applicable; moreover, that the peritoneum is not so liable to be inflamed by a simple incision into it as is imagined by some, and that it is impossible to tell, at the time of operation, whether or not the stricture be fairly relieved, and whether the intestine itself be in a fit state or not to be returned into the belly. Such, then, is the position which this question at present assumes, and is likely to maintain, until the experience of a large number of cases has been fully brought before the profession.

Before proceeding to relate two instances of strangulated hernia where the operation had been successfully performed without opening the sac, Mr. Ferguson alludes to the report of a case which was inserted from the King's College Hospital a few weeks ago. In that instance, the patient was an old man in whom strangulation of the intestine had existed for less than twenty-four hours, and everything appeared to be favourable for the operation without opening the sac; and yet, on post-mortem examination, a considerable portion of intestine was found to be in a condition quite unfit to be returned, although the stricture had been effectually relieved by cutting it outside the peritoneum. The remark was then made, that this very case illustrated the difficulty which must necessarily exist in arriving at a correct conclusion as to the state of the parts inside the hernial sac, and was *per se* an instance to show the danger and inexpediency of returning a portion of intestine which has been constricted even for a short period without first ascertaining its condition. We have now, on the contrary, to relate two instances where the same kind of operation has admirably succeeded, and which thereby tell as arguments in favour of operating without opening the sac, if possible.

Mary Ross, aged 48, married, was admitted into King's College Hospital with a strangulated femoral hernia, on Tuesday, Nov. 26th. She stated that on Monday evening, at 8 p.m., whilst sitting before the fire, she was suddenly seized with a severe pain in the lower part of her belly. She at once sent for a medical man, who gave her an emetic, which acted violently, and increased the pain under which she was suffering. About 11 o'clock of the morning she

was admitted, she first herself noticed a tumour in the right groin, which was very tender to the touch: she had never observed a swelling there before. At 2 p.m. she was sent into the hospital, *no attempt whatever having been made to return the hernia before admission.* Mr. Fergusson pronounced the tumour to be a femoral hernia. The patient was at once placed under the influence of chloroform, and a careful attempt was made to return the swelling by the taxis; but Mr. Fergusson, finding that it did not yield in any way, determined to operate without further delay. Making a very short incision over the hernial tumour, he dissected through the separate tissues, and carried the knife inwards, and divided Gimbernat's ligament, outside the sac; the contents were at once returned into the belly; little blood was lost; the edges of the wound were united by sutures; a compress and bandage were applied.

27th. This patient suffers no pain; has slept well the preceding nights, but the bowels have not been opened since the operation.

28th. Bowels have been opened by means of an enema this morning. The patient feels comfortable.

Dec. 3d. Stitches have been taken out of the wound, and this is dressed with adhesive straps.

Discharged on the 7th.

Lydia Boothby, aged 46, married, and mother of eleven children, has had a crural rupture on the right side for the last six years, and has worn a truss for the last twelve months. On the night of December 23d, at 10 o'clock, she was seized with vomiting and a dragging pain in the stomach, whereupon she attempted to return the tumour with the help of her husband, but found she was unable to do so. These efforts at reduction were continued all night; and, as they were unsuccessful, she applied and was admitted into the hospital. Next day, Dec. 24, she had vomited fecal matter before she came in. She had no vomiting when admitted, but complained of a severe dragging pain at the stomach, and shooting pain over the abdomen. There was a tumour, the size of an egg, in the left groin, turning up over Poupart's ligament; it was hard, and felt nodulated at the upper part, but was smooth and fluctuated at the lower. Mr. Fergusson saw the patient, and, finding that he was unable to return the hernia, proceeded to the operation. He first made a very limited incision just over the neck of the tumour, and divided the separate tissues over the sac; he then passed the knife upwards and inwards, and cut Gimbernat's ligament, and was then enabled to pass the contents of the sac into the belly without opening the sac. It was necessary, however, after dividing the ligament, to cut some fibres between that tissue and the sac; the rupture after this was returned with the greatest facility.

On the same evening this patient found herself much relieved; there was no pain, no tenderness nor sickness.

On the next day her bowels were freely opened, and the only thing she complained of was a little fever, which required some saline medicine. The wound soon put on a healthy appearance, and she rapidly recovered.

Both these cases are interesting, inasmuch as the same operation was put in force in both, and that, too, with the greatest success, although the two cases were not by any means alike. The comparatively simple and harmless operation without opening the sac was performed, and both patients recovered without a single bad symptom. Both cases illustrate the fact, that there are certain instances of strangulated hernia to which this peculiar operation is decidedly applicable; and they teach us what are the circumstances which will lead the surgeon to judge that he is dealing with a fit case for such a mode of procedure. In the first patient the conditions were just those which are considered to be the most favourable for attempting the operation without cutting into the peritoneum. The woman had never suffered from hernia; in fact, it was a quite recent descent of bowel; the parts had not been suffered to remain long down, and, moreover, it was a femoral hernia, which is probably that kind of hernia in which the operation of not opening the sac is most likely to succeed frequently. The anticipations of the surgeon, that in such a case the operation might be completed without difficulty, were verified. In the second case the same conditions did not obtain; for here the hernia was not recent, but was of six years'

standing, and for twelve months the patient had worn a truss; and it might with propriety be expected that some changes would have been brought about in the sac which would oppose a successful attempt at reducing the hernia without an exposure of the cavity. Nevertheless, there was an equal amount of facility in either case in completing the operation. There was also this difference in the two cases—in the one it has been seen that no attempt whatever had been made to return the hernia, either by the patient herself or by a medical practitioner; in the second instance, both forcible and prolonged attempts were made by the patient and her husband to push the tumour back. The circumstances in each were therefore different, and certainly much more unfavourable in the latter case. Still this rude handling of the parts had not appeared to have produced any mischief. A great point in the success of both cases consisted, doubtlessly, in early recourse to operation,—a measure which should always be adopted, whenever it is considered that the employment of the knife is necessary. It must not, however, be considered that in all cases like these just mentioned, and more especially the first, the operation of not opening the sac will invariably succeed or can be accomplished; nor is it to be supposed that the intestine must necessarily be in a fit condition to be returned, because strangulation has existed only for a few hours, and because those symptoms, which not unfrequently indicate a gangrenous condition of the intestine, are not at all perceptible. The case of the man first alluded to shows the impossibility of deciding this question; for, although in this instance strangulation had not existed for twenty-four hours, death rapidly ensued after operation, and the intestine was found in a very disorganised condition; and it is often quite impossible to judge, from the absence of symptoms, as to the comparatively healthy state of the contents of a hernial sac. A short time ago an operation was performed in a remarkable case of strangulated femoral hernia in a very aged person, where there were not the slightest symptoms to indicate that the intestine was in anything but a healthy condition. The operation without opening the sac was performed. The stricture was fully relieved, but the patient died; and, on post-mortem examination, a considerable portion of intestine was found to be in a semi-gangrenous condition. This uncertainty as to the state of the intestine must, then, be looked upon as one of the great impediments to, and difficulties in connexion with, the adoption of this particular plan of operating. Still it must be hoped that a careful observance of signs and symptoms, and the experience of a greater number of cases than have hitherto been brought forward, may be able to enlighten the surgeon on this serious point, and enable him to avoid the dangers which must necessarily arise if he adopts too hastily or too generally either plan of operating.

Mr. Fergusson has lately adopted a mode of operating by a very small external incision through the skin, just over the neck of the tumour. It was formerly his custom to recommend and practise much freer incisions, of various shapes, over the surface of the tumour; but he now proceeds in a manner somewhat like that recommended by Mr. Gay in his very beautiful work on "*Femoral Hernia*:" by means of this incision he is enabled to get easily at the Gimbernat's ligament, which it is generally necessary to divide. Should, however, a larger incision be found necessary, it is very easy to extend it over the tumour. Mr. Gay practises his incision, which is even more limited than that of Mr. Fergusson, by the side of the neck of the hernia, and does not interfere with the tumour at all, if he can possibly effect his object without it. Mr. Fergusson, in both cases narrated, made a small cut just over the neck of the hernia, but interfered little with the main portion of it. The advantage is that so small a wound very soon heals up.

ART. 59.—*Treatment of Subcutaneous Bursæ.*

By W. COULSON, Esq.

(*London Journal of Medicine*, Jan. 1851.)

The mode of treatment preferred by the author is, simply puncturing the enlarged bursa with a grooved needle, such as is used for exploring tumours and



swellings of doubtful character. After the evacuation of the contents, pressure is applied by means of soap plaster and bandage; this is renewed from time to time, and puncture of the sac repeated if necessary. The result is uniformly a permanent and safe cure. If to this we add the almost painless nature of the operation, we have, in this mode of treatment, all that is satisfactory to patient and surgeon.

When the large bursa becomes considerably inflamed, we should endeavour, by rest and other means, to subdue the inflammation. Nevertheless, a puncture such as has been described may be practised even in these cases with advantage to the patient.

Sometimes the integuments over the bursa ulcerate, and under these circumstances pressure may also be employed, as in cases of simple puncture. In cases of long standing, when the enlarged sac has put on the appearance of a sarcomatous tumour, excision is no doubt the remedy, having a due regard to the integuments.

No cases of enlarged bursa have attracted more attention than that of the great toe. The bursa situated on this part may become enlarged and painful, like any other superficial bursa, and require for its relief and cure the treatment recommended. But that which in a peculiar manner complicates the pathology of this enlarged bursa, is the accidental deformity, caused by a projection inwards of the digital extremity of the first metatarsal bone. The phalanges of the great toe itself turn outwards to such an extent as to overlap, or pass under those of the second, a deformity, in fact, amounting to all but complete dislocation.

As the metatarsal bone recedes more and more from the second, the digital extremity seems to enlarge, causing a remarkable prominence inwards of this part of the foot.

In the mean time, as the deformity increases, the bursa is placed, daily, under pressure, more and more severe; the same shoe no longer fits the form of the foot, now much broader in the distal extremity of the metatarsal region; the bursa enlarges, and becomes extremely painful. A succession of bursæ form on the same spot; they open, and perhaps suppurate; and cases are stated to have occurred in which the joint itself has been laid open, and caustic applied to the inner projecting portion of the metatarsal bone, as if it were of morbid growth.

The disease, then, in its most aggravated form, that is when complicated with this deformity, consists, simply in an inflamed bursa, generally produced by pressure, with a partial dislocation of the great toe, mainly dependent on a displacement inwards of the digital end of the metatarsal bone. It will be sufficient to observe, that tight shoes, or rather shoes no longer fitting the altered form of the foot, however they may give rise to an enlargement of the bursa, in no case produce the deformity; for it is now universally admitted that the deformity is most frequently congenital, or comes on in very early life; that it occurs in hundreds who never wore shoes or boots, and that, even when present, it does not necessarily give rise to enlarged bursæ. The cases which most frequently come before the surgeon, occur in persons who get the deformity after the meridian of life. The deformity takes place as a result of the weakening of those structures binding together the metatarsal bones; the larger one recedes from the second, and the muscular forces, acting on the great toe, assist in adding to the deformity, by causing it to approach the others. The treatment of such complex cases is exceedingly difficult. It is here, that rest, in the recumbent posture, becomes absolutely necessary; the inflammation must be subdued, or allowed to subside. Should a corn have formed on the enlarged bursa, it had better be cautiously pared down, as the skin has probably become much thinner over the bursa. When the foot has become tranquil, other questions arise as to the treatment, chiefly bearing on the form of the shoe; a boot, properly made of very soft leather, such as is worn in France, may be used without aggravating the complaint. Shoes are bad, as they necessitate a somewhat tight ligature over the instep; this causes intense pain immediately below it, or nearer to the toe. In time the integuments may and do become accustomed to the form of the foot, and the bursa no longer enlarges. This is the ordinary course of

events, even in cases, by no means unfrequent, where the deformity has proceeded to its greatest extent. When the deformity is natural to the person, the bursæ do not naturally enlarge, and therefore give little or no trouble.

ART. 60.—*On Congenital Contractions of the Fingers, and a new operation for their Relief, and for the Cure of Deformities arising from the Contraction of Cicatrices of Burns.* By J. T. HEYTER, Esq., Oxford.

(*Medical Times*, March 22, 1851.)

My attention, says the author, to the subject of contractions, was first drawn to that of congenital ones of the finger. A young lady was brought to me with the little finger on each hand very much contracted, which I thought might be liberated and healed without granulations; and I set about it in the following manner. I made two incisions, each commencing at the distal end of the second phalanx of the finger, and the two meeting at the proximal end of the first, forming thus a letter V. My next step was to dissect the flap quite back, and straighten the finger, when the wound appeared in this form—M. I then proceeded to bring the edges of the wound together, when it appeared thus—Y, forming the letter Y, and the fingers being stretched on splints, the wound healed by adhesion, and afterwards evinced no disposition to contract.

About two years ago I was applied to by the parents of William Morris, æt. 11. His appearance was horrible; and, from the chin having been for about seven years drawn down by the contracted cicatrix, the form of the lower maxillary bone was considerably altered, and the teeth projected about a third of an inch beyond those in the upper jaw. In consequence of the lower jaw being closely fixed to the sternum, the act of eating was accomplished with much difficulty and labour, and his articulation was so indistinct, that he could scarcely be understood; he was unable to retain his saliva, and his eyes could not be closed when he slept. Under these circumstances, notwithstanding considerable opposition from authorities whose opinions I much respected, and, as far as I know, those of authors being against operative proceedings in these cases, I determined on making an attempt to improve his condition. The child's friends were duly warned that the operation, being untried, might prove as unsuccessful as others had been; and that, from its magnitude and the extent of the surface to be exposed, it would be attended with considerable danger to his life; but such was the misery of his condition, that they said they would prefer taking the chance; and that, should it prove fatal, it would be preferable to his continuing in the state he was in, and my little patient was himself as anxious as his friends for the operation.

There would, of course, be no chance of bringing the sides of the wound together; but I thought that, by liberating the cicatrix, and leaving a quantity of loose integument in the throat, and making a new cicatrix on the sternum at a distance from the chin, and where its contraction could not act upon it, I should, at all events, very much improve the condition of my patient; and on May 11th, 1849, I operated in the following manner:—

I made two incisions, each extending from the angle of the jaw to the level of the lowest part of the sternum, where they terminated, about an inch and a half apart, and a cross cut was made from one to the other. I then proceeded to dissect up the integuments and cicatrix till I reached the chin. The flap contracted when the chin was liberated, so as to expose almost the entire front of the chest; a very considerable lateral contraction likewise took place, leaving a very large raw surface on each side of the neck. The boy's face assumed a natural appearance, and the wound was dressed simply. On removing the dressings on the third day, the lower part of the flap appeared to possess but little, if any, vitality, and on the following day it was clearly in a sloughing state; but enough of it remained sound to reach the sternum and clavicles, to which parts it soon adhered pretty firmly. It is needless to give anything like a detailed account of the progress of the wound; suffice it to say, that for many months it would have given the idea that it was the result of an extensive burn over the sternum. The sides were for a considerable time drawn together by

strips of adhesive plaster; but eventually it was healed under the application of zinc lotion under oiled zinc. As it has been cicatrized for many months, no chance remains of its becoming worse; on the contrary, the boy's face improves every month.

ART. 61.—*Inguinal Hernia, treated by Injection.* By Dr. BIGELOW.

(*Boston Med. and Surgical Journal*, Dec. 1850.)

This subject seems to possess some little general interest. The disease is common, and the surgeon is often applied to, to know how far it may be cured by injection. This method of treatment is not new. In his work on 'Operative Surgery,' published in 1846, Dr. Pancoast states that he had employed it eleven years before that date. The operation consisted of an injection into the sac of a stimulating fluid, by means of a minute trocar and canula, to which a syringe was afterwards adapted. This writer mentions Lugol's solution of iodine, or the tincture of cantharides, in quantity from half a drachm to a drachm, as the injection used. Neither is there anything new in attempts to obliterate the ring by adhesion or destruction of the sac. Such were in the latter part of the last century, the ligature or excision of the sac and testis, by which "the Bishop of St. Papoul found that more than five hundred children had been castrated in his diocese;" and the *royal stitch*, which, embracing the sac, preserved the testis to fulfil its legitimate function of making subjects for the king; and later, the operations which plugged the ring with a piece of the scrotum, and that which irritated it with gelatine threads, or acupuncture, and others, which have been for the most part abandoned.

The present patient, a young man of 21, healthy, and of good habits, has had a left inguinal hernia for three years. Within the last year he has worn a truss, the hernia being often troublesome and tender notwithstanding. It is now, when allowed to descend, an enterocele of the size of a goose's egg, easily reducible, the ring readily admitting the middle finger; and under these circumstances the patient applied for a radical operation. Dr. Bigelow stated to him that the operation was not dangerous; that it probably would not cure him, though it might alleviate the inconvenience: the last perhaps greatly, perhaps not at all. The instrument used consisted of a minute silver syringe, terminating in a fine tube. The latter carries at its point a perforated trocar, which serves at once to make the puncture and to deliver the injection. With this instrument, twenty-five drops of tincture of iodine were deposited at the ring itself, through a puncture in the skin made with a tenotomy knife. When the sac is thin, it is not possible to say whether the instrument enters the sac, or whether it pushes the sac before it. It may, perhaps, be transfixcd literally; but there must be, in general, an uncertainty whether the injection actually penetrates the sac, or only bathes its exterior; and practically the difference, in producing inflammation, whether from contact or from continuity of tissue, must be of no great importance. The result of the operation may be considered as a question of theory and of fact. This process aims to obliterate or plug the ring by an effusion of adhesive lymph. Now, the cause of hernia is a want of resistance in the tendon, and as we cannot make new tendon, the question is how far lymph is capable of supplying its place. Lymph is a plastic material, liable to great absorption, and having a tendency to yield to pressure. It has very little of the resisting property of tendon. Most patients are obliged to wear a truss after the operation for strangulated hernia, which creates a considerable effusion of lymph. The tendency of most irreducible herniæ, where the ring is plugged by its adhering contents, is to increase. But theory should never stand in the way of fact. If it were possible to get at a series of statistics of this operation, the result would be conclusive. [In the absence of these, the author gives the grounds for his own conclusions in respect to it.]

1. He has operated in a number of cases, sometimes with relief, sometimes with none. In one case of a young child, the pressure of a light truss, after the injection of ten drops of tincture of iodine, produced a small slough of the integuments.

2. He has been frequently applied to, in common with other surgeons, by patients who had undergone the operation once, or even twice, to know what benefit would be likely to result from an additional operation.

3. A maker of trusses informs me, that he frequently receives applications for trusses from patients unsuccessfully operated on, or where the relief was only temporary. On the other hand, it is quite probable that lymph diminishes the size of the tendinous aperture in certain cases, and sometimes to a considerable degree. In fact, he knows patients thus operated upon several years ago, who believe that the liability to a descent of the hernial contents has been materially diminished in their cases, and who consider their condition improved by the operation, though they still wear a truss.

Now, under these circumstances, if there is no great danger attending the operation, he considers it justifiable; and he never heard of a fatal result from it, though peritoneal inflammation is occasionally quite considerable. So that a patient who desires to encounter this operation, not dangerous in itself, for a chance of obtaining greater or less relief from an inconvenience, may be gratified.

#### ART. 62.—*Case of Spontaneous Cure of Popliteal Aneurism.*

By JAMES SYME, Esq., Edinburgh.

(*Prov. Med. Journal*, March 19, 1851; and *Monthly Journal of Medical Science*, Jan. 1851.)

T. M—, æt. 35, a seaman, sent from Banff by Dr. Milne, to be under Mr. Syme's care, on account of an aneurism in the left popliteal artery, was admitted into the hospital on November the 18th. The tumour filled the popliteal space, and pulsated strongly. It was first noticed, about six months before, by the patient, after lying one night with his leg hanging over the edge of his hammock. He had been either at sea, or actively engaged in harbour duties, ever since, and always remarked that exertion was followed by an increase of pain. With the exception of occasional rheumatic pains, he had enjoyed good health.

The patient was kept quiet in bed, with restricted diet and gentle aperients, to prepare him for the operation. In the course of a day or two, the aneurismal pulsation became much less distinct, and could not be felt at all on the 23d, when the tumour was also observed to be greatly reduced in size, and no longer the source of any uneasiness. On the 9th of December, the patient being completely relieved from the disease, proceeded homewards.

Mr. Syme states, that a case precisely similar to the one just related, occurred to him some years ago. The patient came over from Kirkcaldy, in Fife, where he had pursued his occupation as a weaver, until the day he was admitted into the hospital, when the perfect rest there afforded was immediately followed by coagulation, and the other steps of a spontaneous cure. "These facts," he observes, "seem to suggest a suspicion, that the one or two very rare instances of pressure being quickly followed by recovery, may really have owed the beneficial change to the assistance of the *vis medicatrix*, from rest in the horizontal posture, and not to the effect of compression. Certain it is, that if the two cases just mentioned had been submitted to pressure, they would have appeared triumphant examples of its successful employment. The Dublin writers allege that no confidence can be placed in trials of pressure on this side of the Irish Channel, accounting for all its failures and bad consequences by attributing them, with characteristic frankness, to prejudice and ignorance on the part of the operators. Well aware of this peculiarity in the estimation of evidence, I have calculated the average length of time requisite for the duration of pressure, from the facts supplied by the advocates of this system. In twenty-three cases of aneurism, reported by Dr. Bellingham, from the practice of seventeen surgeons, as successfully treated by pressure, the average duration, not of the treatment, but of the actual compression, excluding the intervals of its discontinuance, amounted to thirty-eight days. Thirty-eight days and nights of misery, to escape a few minutes of trivial uneasiness!"

ART. 63.—*Penetrating Wound of the Knee-Joint.—Case.*

(Lancet, Feb. 8, 1851.)

The patient, David M—, a carpenter by trade, and thirty-six years of age, was admitted into St. Bartholomew's Hospital, Henry VIII. Ward, under the care of Mr. Lawrence, October 15th, 1850. He is a strong, muscular, well-fed man, of a sanguineous temperament, and had met with a penetrating wound of the knee-joint. It appears that the patient, six days previous to his admission, being employed at Shooter's Hill, in taking up the flooring of an apartment, and whilst kneeling on both knees, unfortunately run a very sharp chisel into the left joint, just above the patella. The knee was evidently in a very unfavourable position to resist an injury of this nature, as the patella is forcibly drawn towards the head of the tibia in the kneeling posture, the depression between the condyles of the femur being quite unprotected, and the synovial membrane on the stretch.

The patient distinctly states, that he felt no pain at the time of the injury, though it is clear that the chisel must have run directly into the joint between the condyles of the femur and the posterior surface of the patella. The circumstance of no pain being experienced by the punctured wound of the synovial membrane, is not unworthy of remark, as contrasted with the suffering complained of when that membrane passes into a state of acute inflammation. Thus may the pleura, or other serous membrane, be punctured by the surgeon without giving the patient much pain; whilst the *stitch* of pleurisy is so difficult to bear. The same may be said of the tunica vaginalis, whilst, on the other hand, phenomena of a reversed character are, as every one knows, manifested in the skin.

The patient was able to rise, stand erect, and walk across the room to a seat, but sufficiently conscious of injury to send for a surgeon. The latter saw the wound about an hour after the accident; by this time the joint had become somewhat œdematous, but no synovia had escaped externally. The injury was pronounced of a trifling character, the wound brought together by strips of adhesive plaster, and rest enjoined. The patient remained six days in the country; and finding that the knee was getting worse, forthwith repaired to London, and was admitted into St. Bartholomew's Hospital. The pain had gradually increased during this lapse of time, but the joint did not swell very rapidly.

On admission, the knee was found swollen and tense, the skin unchanged in colour, the natural prominences of the joint were effaced, and the leg was becoming œdematous. Though pressure gave some pain, it was not of a very acute description, yet flexion of the joint could hardly be borne; skin hot, pulse 100, full. Mr. Lawrence ordered a linseed poultice to the part, and fourteen ounces of blood to be taken from the arm; low diet, and a solution of one drachm of sulphate of magnesia and a quarter of a grain of tartarized antimony, to be taken every sixth hour.

The next day an aperient was administered; and on the joint being examined, it was found that the pain was still considerable. Twenty-four leeches were ordered to be applied to the knee, and two grains of calomel, with a third of a grain of opium, to be taken every sixth hour. On the third day, twenty-four leeches were again placed upon the joint, and the same number on the fourth day. Sleep was procured by morphia at night, and small doses of tartrate of soda administered every sixth hour.

As signs of inflammation of the synovial membrane were continuing, twenty-four leeches to the knee were ordered on the sixth day; and as the patient could get no rest, he was given five grains of soap pill, to be repeated every two hours until sleep was induced. On the eighth day, the same number of leeches as before was again applied to the joint, and the mouth became sore on the fifteenth day.

On November 2d, being the nineteenth day after admission, six leeches were placed upon the knee; and the patient having at this time been considerably lowered, and the pulse being somewhat weak, Mr. Lawrence allowed a good diet and wine. Counter-irritation was now resorted to, as the joint, though much less painful and less swollen, was still stiff and somewhat tender. On the twenty-

second day a blistering plaster was applied, and on the twenty-sixth the joint was quite free from pain; it was no longer tender on pressure, and could be slightly moved, though the patella was quite fixed.

It will be perceived, that up to this date, very energetic antiphlogistic means were resorted to; no less than eleven dozen leeches having been applied to the joint in the space of about twenty days. The wound made by the chisel had cicatrised very rapidly, but was somewhat interfered with by the blister having irritated it. The cicatrix was of a transverse direction, parallel to, and just a little above, the superior border of the patella, and about one inch and a half in length.

From the twenty-sixth day after admission, the patient continued to progress very favourably; he was allowed a generous diet, tonics, &c., and on the 18th of December, about two months after the treatment had begun, he walked about the ward supported on crutches, and being able to flex the joint in a slight degree. The latter presented much less induration and thickening, and the patella could be moved more easily. On the 15th of January, three months after admission, the knee had recovered much of its power; and its eventual restoration to complete efficiency may be looked forward to, though a certain amount of time will still be required until this end is attained.

ART. 64.—*Treatment of Bronchocele by Compression.* By Dr. DWIGHT, Moscow, (U. S.)

(*North-Western Medical and Surgical Journal*, March 1851.)

[The author having frequently failed with iodine, and further having met with cases in which injurious effects were supposed to have been produced by that medicine, was induced to try the effects of pressure, which he accomplished in the following manner:]

Three straps of glazed cambric were spread with adhesive plaster, each half the width of the tumour, and sufficiently long to reach from the lower edge of the scapula of one side obliquely up the opposite side of the neck and across the lower part of the tumour, passing thence onward in return to the upward direction down to the lower edge of the opposite scapula, crossing like suspenders. The strap is drawn quite tightly, producing very considerable turgescence of the blood-vessels of the face. The patient will shrug up his shoulders for a few minutes until the thyroid vessels become compressed sufficiently to enable him to breathe more comfortably, and the countenance resumes its natural appearance. Five minutes is all the time ordinarily required. The second strap is then passed in the same manner across the upper part, from half an inch to an inch from the first, according to the circumstances of the case, such as length of neck, size of tumour, or situation and form. This strap is drawn as tightly as the first. After waiting until the countenance allows a new application, the third strap is put on in the same manner over the immediate space in like fashion.

Ordinarily the plasters will adhere in cool weather from ten days to a fortnight, when, becoming loose and non-adherent, they ought to be removed. If the pressure has been well applied, the tumour will be found to have become slightly less, the skin somewhat reddened and tender. In such case it is prudent to wait until it assumes its natural appearance before a new application of the plasters.

The first application has in one case been sufficient; but the average has been as high as four times in each case. When the bronchocele has become diminished to half its size at the time of its first application, it will continue to disappear without further care. The author states that the success which has attended this treatment is such as to warrant confidence. In twenty cases there has been no failure. In the first four, iodine was used in conjunction with the plasters, and in the twelfth it was used antecedently for several weeks without diminution of the disease. In these cases the progress was no more rapid than when no iodine was used. In two of the cases the disease returned at the end of two years each, but on a new application of the straps was immediately overcome; and although ten years have elapsed since the last application, all is as well

as though there had never been any deformity. It is proper to add, also, that in both of these cases iodine was freely taken, as well as pressure used at the commencement.

**ART. 65.—Treatment of Mammary Abscess by Collodion.** By Dr. EVANS, (U. S.)

(*North-Western Medical Journal, and Provincial Journal, April 16, 1851.*)

Mammary inflammation, during lactation, is exceedingly prone to end in abscess. This is owing to the great vascularity of the organ, and its loose and flaccid texture, which allows the determination of blood to it speedily to result in effusion of lymph, which, in the absence of the pressure made by denser structures, is not absorbed, but results in the secretion of pus. Thus when the breast becomes indurated under the treatment heretofore practised by the profession, of poulticing, applying liniments, tobacco leaves, &c., without constitutional treatment, it almost uniformly forms an abscess.

Disheartened by the general want of success in preventing suppuration by the ordinary means of treatment, and satisfied that the most prominent indication of cure was to overcome the freedom with which the blood is forced into the mamma, and, by compression, cause the absorption of the lymph, as is done by the roller applied on the extremities, in various forms of inflammation, Dr. Evans determined to use a complete coating of the collodion to obtain the benefit of its contraction; the result of which will be more fully illustrated by relating the following cases in which it has been used:—

**CASE I.**—Dec. 18th, 1849; called to see Mrs. J—, suffering from mammary inflammation during lactation. Found she bathed with liniments, applied poultices, and kept the milk well drawn from the breasts, but without apparent benefit. I could detect decided fluctuation at the point of greatest suffering. I ordered a coat of the liquid adhesive plaster, which gave very prompt relief, and the inflammation speedily subsided. A few days after I opened the abscess, which pointed, but it discharged a very small quantity and rapidly recovered.

**CASE II.**—Mrs. S— was confined June 5th, 1850, with her third child. On the 7th, she was attacked with a chill, followed by high fever and active inflammation of both mammae. She had suffered, after each of her previous confinements, with extensive abscess of the left breast. The secretion of milk was very profuse; and notwithstanding strenuous efforts to keep the milk drawn off by the assistance of a little girl, who drew it very freely, the left mammae became extensively indurated, and was acutely sensitive and painful at the point of the former abscesses.

I applied the collodion so as to cover the indurations completely, with the effect of promptly relieving the suffering of the patient; and by repeating the coating morning and night for a few days, the indurations were removed. The only additional treatment used was seidlitz powders, given to produce a laxative effect.

**CASE III.**—Mrs. M'C—, eight days after confinement, was attacked with mammary inflammation, attended with chill and high febrile excitement, on the 8th of June, 1850.

Gave Mass Hyd., grs. xij, with Pulv. Doveri, grs. viij, in the evening.

June 9th. This morning the breast is very painful, and extremely tender to the touch, great thirst, dry mouth, frequent but compressible pulse, and a troublesome cough. The bowels had not been moved. Ordered Sol. Mag. oz. ss, and an application of the collodion to the breast, and free abstraction of milk.

June 10th. Much better; says the application of collodion to the inflamed breast gave immediate relief to the pain, and the soreness has rapidly diminished. Ordered the application to be repeated.

The recovery was rapid without suppuration.

**CASE IV.**—Mrs. P—, three weeks after confinement, was attacked with inflammation of the mamma on the 24th of June, 1850. She had been previously under treatment for uterine phlebitis, from which she was recovering.

The breast was swollen, indurated, and very painful. The collodion was applied so as to cover the induration and swelling, with almost instant relief to the

pain. By repeating the application the swelling subsided gradually, without suppuration.

CASE v.—July 15th, 1850. Mrs. M— had an attack of inflammation of the right mamma, about ten days after confinement. I was called the next day and found it swollen, indurated, and painful, notwithstanding the milk had been kept freely drawn, and the breast well fomented. A coating of collodion, as in the preceding cases, promptly gave relief to the pain, and gradually removed the swelling.

In no case where I have used the collodion, except the first one reported, has the slightest suppuration taken place.

In every instance the relief from suffering has been prompt, and no inconvenience has resulted from its use in any case, except the slight smarting that attends its application.

[The advantages of this mode of treatment are likewise mentioned by Dr. Murphy (U. S.) in the "North Western Journal" of March, 1851.]

#### ART. 66.—*Treatment of Stricture of the Rectum.*

By J. S. HUGHES, M.D., &c.

(*Dublin Medical Press*, Dec. 11, 1850.)

[In continuation of Art. 51, we give the following remarks on treatment of stricture of the rectum.]

Having, after a proper examination, ascertained the existence of an organic stricture of the rectum, we should next direct our attention to its *treatment*. If we are fortunate enough to be consulted in the early stage of the disease, previous to the setting in of ulceration, we shall find that the judicious employment of suitable bougies, so as to dilate the stricture and keep it open, will have a powerful influence in controlling the disease and alleviating the patient's sufferings.

When about to introduce a bougie in these cases, we can either place the patient on his side near the edge of the bed, or in the kneeling position. We then should pass the index finger of the left hand, previously oiled, up the rectum as far as the obstruction; next, with the right hand, we should introduce the bougie, and conduct it along the finger through the stricture with a gentle boring motion; but here Dr. Hughes warns us against using any degree of force in attempting to dilate the stricture. In these cases we should commence with a bougie of small calibre, and gradually increase the size of the instrument until the canal has acquired somewhat of its natural calibre. Here rough treatment would surely be followed by increased irritation and augmentation of the patient's sufferings. When we have succeeded in passing up a moderate sized bougie, we should leave it in from a few minutes to half an hour at a time, repeating it at certain intervals. The rectal bougie, which is so constructed as to be received completely within the sphincter muscle, is the most easily retained by the patient; but although the employment of bougies frequently affords the patient a considerable amount of relief, and tends to prolong his existence, the author regrets to say that they fall short in effecting a *permanent* cure of the disease; for although Dr. Hughes has enjoyed extensive opportunities of noting the cases so treated in the wards of Stevens' Hospital under the late Mr. Colles, whose character stood pre-eminently high on diseases of the rectum; and although he has treated a few cases of the disease himself, he has *never* seen a *permanent* cure effected in a single case of stricture of the rectum.

The author wishes to lay particular stress on this part of the subject, as he is aware that certain authors have stated that in *their hands* the treatment of stricture of the rectum by the introduction of bougies has been followed by a perfect and permanent cure. The truth, however, is, that stricture of the rectum, like that of the urethra, can be kept at bay by the judicious use of bougies; but in neither case does a permanent cure follow the treatment.

The amount of relief to be obtained by the use of bougies in stricture of the rectum will, to a great extent, depend on the treatment being adopted in the early stages of the affection; for if we are not consulted until the disease has



made much progress, having reached the advanced stage, and if ulceration has set in, the most judicious treatment will avail but little.

When the introduction of the bougie, in cases of stricture of the rectum, is attended with much pain, we shall often, by the administration of sedative medicines, enable the patient to tolerate the presence of the instrument. Here an opiate suppository will often be found to afford the greatest relief. It should be introduced by means of the little instrument invented by Mr. Colles, which consists of a tube and piston, and should be used as follows: the piston being drawn out to its fullest extent, the tube is loaded with the suppository; the instrument is next passed, well oiled, into the rectum above the sphincter muscle. The piston being now pushed home, whilst the tube is held in a fixed position, the suppository is thus propelled into the gut without any undue violence; the instrument is then withdrawn.

With regard to the treatment of stricture of the rectum by incision, long since recommended by Wiseman, in cases where the obstruction was very low down, within the reach of the finger, the operation has been resorted to in certain cases by some high modern authorities, amongst whom Dr. Hughes mentions Sir B. Brodie, Mütter, Copeland, &c. In some cases, its adoption has apparently been followed by temporary advantage; it is not, however, free from danger, having been in some cases followed by formidable hæmorrhage, and in others by fatal peritoneal inflammation. A case terminating in death from the latter cause, has recently come within the knowledge of the author. He therefore does not recommend the operation for adoption, except in cases where there is a total obstruction to the contents of the bowels, and where we have failed to pass an instrument beyond the constricted part, in which case we should pass up a bistourie cachée, so arranged as to be capable of cutting or notching the stricture from within to a certain depth only; having accomplished which, a bougie should be introduced through the part.

As to internal treatment in stricture of the rectum, it must be admitted that at present we possess no medicine which appears to exert the slightest beneficial influence over the disease. The author has used mercury, arsenic, iodine, and their various combinations, in these cases, but without any good results; however, we do possess means of assuaging the sufferings of the patient, and in many cases, when combined with the employment of bougies, of considerably prolonging the patient's life.

Thus, small doses of blue pill and Dover's powder, or blue pill and cicuta, as recommended by Mr. Colles, but not so as to affect the mouth, seem often to be of service. Mucilaginous drinks and mild aperient medicines are also attended with relief. The administration of enemata, of tepid water, solutions of soap and water, &c., by means of a suitable apparatus passed up through the obstruction, often by dissolving and bringing away feculent matter, is attended by marked relief.

#### ART. 67.—*Treatment of Burns and Scalds with White Paint.*

By Dr. GROSS.

(*Transactions of American Medical Association*, Vol. III.)

Dr. Gross states that, during the last nine years, he has paid much attention to the treatment of burns and scalds with carbonate of lead in the form of white paint. It is extremely efficacious, and is applicable to accidents of every intensity. As the lead of the shops is too stiff for use, he mixes it with linseed oil till it acquires the consistence of thick cream. With this the affected surface is thickly coated by means of a camel-hair brush. If vesicles exist, their contents are evacuated with a fine needle, and the part well dried, otherwise the lead will not adhere. The dressing is completed by covering the paint with carded cotton, and a roller over all. In mild cases, one application will be enough; in more severe ones, several will be required.

Dr. Gross states that he has never seen any injurious effects from the white paint. In one case of extensive burn, the application was continued for five weeks. In short, he considers the treatment perfectly safe in every kind of

burn, and at every age. As a precaution against the toxic effects of the lead, an occasional dose of sulphate of magnesia may be given. Dr. Gross considers that the white paint acts, partly by excluding air, partly as a sedative. In many cases he says it acts like a charm.

Dr. Gross also thinks in favourable terms of collodion, but has not had extensive experience of it.

ART. 68.—*Observations on Collyria.* By ARTHUR JACOB, M.D.

(*Dublin Medical Press*, May 7, 1851.)

Dr. Jacob has observed, that these remedies probably operate in three ways: as stimulants, astringents, and escharotics; and he now adds, as sedatives. This, he thinks, can scarcely be denied. That most, if not all of them, stimulate, cannot, he thinks, be doubted, and that some act as escharotics, is equally obvious; the astringent effect also seems undeniable, although perhaps the exact change of structure produced by astringents may not be so clearly established. It is assumed to be a diminution of the size of capillary vessels and a contraction of secreting parts, and apparently with reason. The sedative effect is not, however, so unquestionable, if we assume that the cessation of pain is evidence of it; for notwithstanding an apparent belief to the contrary, remedies which uniformly allay pain are not in our hands. Still the existence of these four qualities in medicinal remedies, in a greater or less degree, is so far established, that the practitioner may with safety make his selection in accordance with such a view. The use of an application simply stimulating in inflammation of the conjunctiva, or its consequences, may on consideration appear difficult of explanation; it seems like adding fuel to fire; yet it is doubtful whether the beneficial effects of a solution of nitrate of silver at this period is not from its stimulating properties; the impunity, if not advantage, often derived from weak medicinal solutions, indiscriminately used in routine practice, is also in favour of the conclusion that, even in the acute or active stage of inflammation, stimulation may sometimes be beneficial. Dr. Jacob is not, however, advocating the practical application of such a theoretical view, he would only suggest an inquiry into its soundness; for the subject is one for consideration in other departments of the healing art as well as this. But whatever doubts may be entertained respecting the possibility of a beneficial operation by stimulants in the acute stage, there cannot, he thinks, be any respecting the advantage to be derived from them, sometimes at least, in that state of the conjunctiva which follows, and which has been called the chronic stage. After the tension of inflammatory action subsides, and when pain abates, and a mild purulent secretion is established, astringent applications unquestionably prove beneficial; and at a more advanced period, if these fail, or that symptoms demanding them ensue, stimulants also are found of advantage. The peculiar condition of the parts to which stimulating applications are suited, does not, however, appear to be well understood; they are often used indiscriminately or empirically. It is, he thinks, when a sensation of scalding, with flow of tears and intolerance of light prevails, that they are useful; or when no other inconvenience remains except a certain tenderness or rawness of surface, depending, perhaps, on a want of epithelium. Of stimulating applications, the two most extensively employed are the *vinum opii* and the weak solutions of sulphate of zinc and copper; and such has been their success, that they have become popular remedies, even beyond the limits of our profession.

Dr. Jacob has already, in a former paper, expressed his opinion as to the value of the *vinum opii*, and quoted Mr. Ware's account of its benefits in his practice. It is now more than fifty years since his observations were published, and he knows of no local application which has maintained its character amongst practical men so well. It often fails, it is true, especially when used in cases unsuited to it; but all men of experience agree that it is frequently a most useful application. Notwithstanding, however, the evidence in support of its beneficial operation, strange to say, an attempt has been just made to discard it from practice, by omitting it from the *Dublin Pharmacopœia*, and substituting

for it a simple vinous tincture without any of the aromatic stimulating ingredients. This change was first suggested by an oculist in London in extensive practice, although an ephemeral writer for the less scrupulous journals, takes credit for its adoption. Whatever benefit attends its use seems to depend on its stimulating properties quite as much as its sedative; but probably it arises from the union of the two, although such a combination may appear unaccountable. At all events, the tincture substituted for it has no particular value, and must, from the variable nature of the menstruum, and its liability to adulteration, be a very unequal preparation. Indeed, the beneficial effect of simple solutions of opium, its ingredients or products, in allaying painful sensibility of the conjunctiva, and diminishing vascular turgescence, seems not to be so obvious as might be supposed from the sedative properties of the drug. Dr. Jacob at one time made some experimental trials with them, using the strongest solutions in water, and the common alcoholic tincture rendered less stimulating by the application of heat; but cannot say that the trial proved satisfactory. As he has stated in a former paper, the true *vinum opii* should be used in those cases only where scalding pain, profuse flow of tears, and intolerance of light prevail; and should now be prescribed under its old title of *tinctura thebaïca*, or as the *vinum opii* of the London or Edinburgh Pharmacopœias.

Of the saline stimulants, the sulphate of zinc seems to have maintained its character above all others. It is the popular "eye-water" of this country, and could not, Dr. Jacob thinks, have continued so for such a length of time, unless it had been positively beneficial in a majority of cases. The sulphate of copper may, however, be of equal value, as well as the *lapis divinus*, a salt resulting from the mixture of alum, nitre, and sulphate of copper. Indeed, many other salts are probably equally efficient in proportion to their stimulating properties; and hence the popular use of vinegar and water, brandy, eau de Cologne, salt and water, and even urine, which is sometimes employed, notwithstanding the objections its use must suggest. The sulphates of zinc and copper, and the *lapis divinus*, may be prescribed in water impregnated with camphor, and in the proportion of about two grains to the ounce. Dr. Jacob has generally ordered it in the common camphor mixture of the shops, adding a drachm of spirit, and five drops of dilute sulphuric acid to an eight-ounce bottle. He has, however, to repeat, that it is in chronic cases where the conjunctiva and edges of the lids are raw and tender, whether from preceding inflammation or not, that these stimulating applications prove beneficial. While any inflammatory action remains, or a tendency to relapse prevails, they are not desirable.

Respecting the use of astringent applications, in both the acute and chronic stage, Dr. Jacob has already expressed his opinion. He has now only to suggest, that the practitioner will endeavour to act upon some definite and exact principle as to their use. He has to settle what the precise change is which the agents called astringents produce; then, whether such change is beneficial in conjunctival inflammation or its consequences; and if so, what astringent should be employed. The precise change, however, has not perhaps been exactly ascertained, whether chemical, physical, or vital. All that seems to be proved is, that the surface to which an astringent is applied, becomes shrivelled or corrugated, whether living or lifeless; but whether vessels become diminished in calibre, or secreting structures disabled from acting, or the epithelium coagulated by its operation, remains to be determined. Be the change, however, what it may, it seems to be proved by experience that astringents diminish the enlargement of vessels caused by inflammation; in fact, remove the increased vascularity or redness, while they, at the same time, diminish or arrest the secretion of purulent matter, and perhaps benumb the sensitive *villi* or *papilla*. Of the medicinal agents used for this purpose, tannin from the organic, and alum from the inorganic sources, seem most entitled to confidence, considering their action on lifeless structures: hence the occasional use of infusions of galls, oak-bark, and other vegetable materials, and of solutions of tannin itself. Dr. Jacob cannot, however, say that he has found tannin beneficial in the chronic vascularity of conjunctival inflammation. Its use seems to be revived and announced as a novelty by some Belgian practitioner, but the author has not repeated the trials he formerly made of it. A saturated solution of alum (*sulphas aluminæ*

et potassæ) may be dropped with safety between the eyelids once or twice in the twenty-four hours, and a weaker solution, five grains to the ounce of water, may be more freely used as a *collyrium*. It has, probably, more astringent with less stimulating properties than any other salt; but the sulphates of zinc and copper are also astringent, although more irritating. Acetate of lead seems also to be powerfully astringent, with little stimulating qualities, and even, perhaps, with some sedative operation. Nitrate of silver, also, as Dr. Jacob has already stated, is a valuable astringent in the proportion of ten grains to the ounce of water. The practitioner may, he believes, with safety give most of the metallic salts a trial, if so inclined, and may add to our information by recording the results of such experiments. At one time he made many experiments with some of them, but the result was a greater reliance upon alum, acetate or diacetate of lead, and nitrate of silver.

Of the value of what are called sedative applications in conjunctival inflammation and its consequences, no very accurate estimate seems to have been formed, notwithstanding their frequent use. Warm stupes and tepid lotions containing narcotic materials are considered beneficial in the acute stage; but whether the apparent advantage attending their employment depends more on the warm moisture than the medicinal influence, appears doubtful. The author has from time to time used opium, hops, hemlock, hyoscyamus, belladonna, and tobacco in this way, but still remains undecided as to their medicinal value, except in cases assuming a neuralgic character, where they appear to be of positive benefit when used of proper strength. The value of sedative applications directly to the conjunctiva seems also undecided, although generally assumed to be unquestionable. Opium, and the narcotic products derived from it, after a fair trial, seem beneficial in particular cases only. They do not uniformly allay the scalding pain which accompanies the increased vascularity consequent to inflammation, notwithstanding the notion very generally entertained that they must necessarily do so. The author has just alluded to the use of the *vinum opii*, and is convinced that its admitted beneficial operation depends upon the combination of sedative and stimulant properties in the preparation; neither strong solutions in water, nor simple tinctures in wine or alcohol, have the same effect. Dr. Jacob tried tinctures of hop, hemlock, and tobacco in cases where the *vinum opii* generally succeeds, but cannot say that he has found them of much value, although they may be used with safety. The acetate and diacetate of lead are generally considered to possess sedative properties, but the author cannot discover on what grounds. They are, he believes, powerful astringents, with moderate stimulating properties, and may be used in any strength, not being escharotic, however applied. The common Goulard's extract (liquor plumbi diacetatis) and the saturated solution of the acetate of lead, may be dropped into the eye without fear of any ill consequence, and in the chronic vascularity following catarrhal ophthalmia, with great benefit. Dr. Jacob has been in the habit of using a *collyrium* made by mixing the diacetate of lead with the *acetum opii* in water; and latterly has been trying a strong preparation of this nature, made by mixing equal parts of Goulard's extract and *acetum opii*. There is, of course, decomposition in such a mixture, and a copious precipitate is thrown down; but the fluid obtained by filtering or rest is evidently an efficient one, and not irritating. The author drops it freely between the eyelids, when the *villi*, *papillæ*, or glands of the conjunctiva lining the lids are turgid or enlarged.

Of the use of applications positively escharotic, in both the acute and chronic stages of purulent ophthalmia, the author has already expressed some opinion, and has now only to suggest a consideration of the nature of an escharotic so administered. It is, Dr. Jacob concludes, assumed to be an agent operating as a chemical solvent of the structure to which it is applied, and being so, must be very cautiously used. The author is not here alluding to its use in progressive ulceration of the conjunctiva, or to granular lids, but to its use as a dressing to the entire conjunctival surface; and as such, its true effect should be well understood. Here, however, a question arises as to the fact of escharotics being so used at all; and it must be admitted that unless strong solutions of nitrate of silver are of this nature, few other solutions used, if any, operate in this way. Saturated solutions of alum or acetate of lead are certainly not chemically es-

charotic; neither, perhaps, are saturated solutions of sulphate of zinc or sulphate of copper; but strong acids, alkaline solutions, and lime suspended in water are although not medicinally used. The author has said elsewhere that a solution of nitrate of silver, containing thirty grains or less in the ounce of water, is escharotic, because, if repeatedly brushed over the surface of an everted eyelid, a gray pellicle is produced; yet such a solution may be dropped into the eye without burning the conjunctiva, and perhaps even a stronger solution might be so applied without destruction of surface. The ointment recommended by Mr. Guthrie, being ten grains of nitrate of silver, triturated with a drachm of lard, is also probably escharotic, although more or less of the nitrate must be decomposed by the addition of fifteen drops of diacetate of lead.

The author has here, as well as in other places, been endeavouring to direct the attention of practitioners to a more rational practice in the use of local applications to the conjunctiva; because, notwithstanding the length of time they have been used, they are generally administered empirically, and without a proper consideration of their exact nature. The subject is one which, perhaps, might be more effectually handled in a distinct essay than in a practical treatise, because it is one of importance in relation to other departments of surgery; but if it leads practitioners to reconsider their opinions respecting the comparative value of *collyria*, the inquiry cannot fail to be beneficial. While alluding to the subject, it may, however, be useful to remind them, that these direct local applications may be often not only unnecessary, but absolutely mischievous. Dr. Jacob has no doubt that recovery is often interrupted by the use of them, and that many of the worst cases of what is called chronic ophthalmia are reduced to that condition by premature and injudicious irritation in this way. It is true that, in general practice, the prejudices of the people do not permit a fair trial of less active interference; but in hospital and dispensary practice, and especially in the military department, an opportunity of doing so, is afforded. Of the method of applying *collyria*, lotions, or solutions to the conjunctiva, it is necessary to offer a few observations, the importance of a proper administration of remedies in this way being generally overlooked. A drop of fluid placed on the surface of the eye, between the two margins of the eyelids, must have but a very limited operation, narrowed as the exposed surface is by the contraction of the orbicular muscle, and confined as the fluid is from spreading between the lids by the accurate fitting of the palpebral cartilage to the eyeball. To secure a full exposure of the whole conjunctiva of both the eye and the lids to the contact of the fluid, it should be introduced beneath the upper lid at the outer angle by separating the two surfaces and introducing a large drop from a full-sized camel-hair pencil between them. By laying the thumb or finger on the skin between the lid and brow, and pushing it up over the margin of the orbit, a space is made between the lid and ball, into which the fluid should be dropped, and from this it will spread over the whole surface. If a more complete saturation of the upper lid is required, it must be everted, and repeatedly brushed over with the solution.

ART. 69.—*On the Treatment of Ophthalmia in General.* By Professor LANGENBECK.

(*British and Foreign Medico-Chirurgical Review*, April 1851.)

Professor Langenbeck, of Erlangen, lays down some general principles for the treatment of inflammation of the eyes, which may be often usefully borne in mind.

1. A slight *revulsion* on the intestinal canal or skin suffices for the cure of mild inflammations of the eyelids and conjunctiva, especially in children, provided that neither the inflamed part nor the patient's constitution have undergone any material change. When the inflammation is consequent on the irritation of foreign or chemical bodies, or is sympathetic of a disordered state of the general economy, active exercise in the air for some hours, an antiphlogistic regimen, and care in using the organ, are required.

2. When the inflammation is more active, but the constitution still sound, a *more active revulsion* is required, and may be procured by strong purges and ene-

mata, and the frequent application of large blisters or sinapisms to the calves, thighs, sacrum, or nucha. Friction of the feet with *Sp. sinapis athereus*, and then covering them up, soon induces revulsion. In blenorrhœal scrofulous ophthalmia, &c., these means are still of use, though not alone curative.

3. The irritation of the nasal mucous membrane is an excellent means when the disease is not removed in a few days, and is inclined to become chronic or relapsing, and especially if it assumes a distinct catarrhal character. A pinch of Spanish snuff may be taken every two hours, a little black pepper applied, or the infusion of chamomiles inhaled. This last, accompanied by a blister to the neck, soon disperses very obstinate cases, occurring in persons predisposed to angina.

(We may observe that M. Tavnigot is a strong advocate for exciting revulsive action on the Schneiderian membrane, in the subacute stage of scrofulous, and some other forms of ophthalmia. To this end he either touches the mucous membrane daily with a pencil of nitrate of silver, or with a little ointment containing 1-10th of this substance. But to these means he prefers, when the patient is old enough to know how to use them, stimulating substances mixed up with iris powder, and taken as snuffs. Thus he uses a powder formed of 30 parts of iris powder, camphor 1 part, and sulph. zinc or copper from 2 to 8 parts. Or 2 parts of nitr. silver, or 1 of cantharides may be substituted for these salts, retaining the camphor. (See *L'Union Médicale*, No. lxxix.)

4. *Special excitement of the functions of the skin.*—Suppose the disease takes on the form of scleritis or rheumatic ophthalmia, with great irritability of the eye, and disposition to relapse on slight atmospheric changes. In such cases, besides the local treatment to be adverted to, great benefit accrues from exciting the functions of the skin by *tartar emetic vomitings*, repeated three or four times, continuing the medicine in smaller doses for a while afterwards, and keeping the patient in as warm a medium as possible. In other cases great benefit results from administering the *Sp. mindereri* in bland fluids, and keeping the body hot for twenty-four or forty-eight hours, frequently the while applying friction to it with a flesh-brush, or passing a hot domestic iron over it when covered with a blanket.

5. *Derivation to the glands.*—In scrofulous ophthalmia, which is very frequent in the author's neighbourhood, he finds great advantage from exciting inflammation or even suppuration by repeated blisters, or other revulsives in glands liable easily to become inflamed.

6. *Derivation by issues.*—This is especially indicated in those forms of ophthalmia, in which opacity of the vitreous humour is a common result, as hyaloiditis, keratitis, iritis, and uveitis. In such, into an issue opened in front of the ear or on the temple, a little powder of equal parts of salt and borax may be placed several times a day, and forms a powerful adjuvant to antiphlogistics.

7. *Revulsion on the joints* is a powerful adjuvant in persons who have already suffered from gout or rheumatism, or who by age or constitution seem especially predisposed to them, the joints being covered by flying blisters, or strong sinapisms. Dr. Langenbeck has frequently had recourse to this means prior to operations for cataract or artificial pupil, in order to prevent subsequent inflammations in such subjects.

8. *Bleeding*, whether local or general, is usually useless in superficial inflammations of the eye, unless they acquire great intensity, and threaten to implicate the deeper structures, when small general bleedings or leeches are necessary. In children even, bleeding from one to three oz. is usually better than leeches, which when used should not be applied to the cheeks, temples, or mastoid processes, where they may even do mischief, but at a distance, and especially along the course of the carotids.

9. *Local application of Cold.*—Upon this subject Dr. Langenbeck offers some very minute directions, not only in respect to the cases to be chosen for its use, but its mode of application. He observes, that in many cases wherein cold is useful, wet is mischievous, and in others where this is not the case, it becomes so through faulty management. If merely permanent cold is required, he employs hollow horn rings, into which pieces of ice wrapped up in rag are introduced, which are replaced, when melted, by other pieces. When applied, the

apparatus looks like a monster pair of spectacles, and is large enough to be supported on the orbit without compressing the globe of the eye at all. A piece of sponge is laid on the cheek to receive the fluid as it melts. Another plan of producing great cold, to which he gives a preference, is to place the patient on his back, with his eyes shut, and having deposited a small portion of a powder, formed of equal parts of nitre and sal ammoniac, in the inner angle of the eye, to allow water to fall on it *guttatim* until it is dissolved; the fluid so formed may be retained on the eye until heated, and then renewed. The author attributes the production of the good results which follow this plan, not only to the intense cold which is produced, but to the antiphlogistic effect of the salts which gain admission into the eye, on the partial opening of the eyelid. Repetition of this from four to eight times, at intervals of from ten to twenty minutes, is equivalent to glacial applications for twenty-four or forty-eight hours; and, indeed, the two, if necessary, may be combined. Persons who have no assistance, may manage the powder by inclosing a certain quantity in linen rags, and moistening it. So too glass globules may be filled with ice or this refrigerant.

As a general rule, *the local use of cold is proper in all cases which are not dependent upon evident constitutional cause, or dyscrasis.* Certain exceptions to this must, however, be observed: as—1. When inflammation of the fibrous textures of the eye has extended to expansions of the motor apparatus of the globe. Recent *rheumatic* ophthalmia is, however, benefitted by cold affusions, lasting from three to ten minutes, and chronic cases by dry cold. 2. In *erysipelatous* inflammations, cold affusion is interdicted. The temporary application of dry cold, and the covering up the forehead and cheek with taffetas, induces active transpiration. 3. *Blennorrhæal* inflammations are not dangerous to the internal structure of the eye in general, only inasmuch as the cornea becomes injured by the irritating discharges; and it is chiefly for the purpose of cleansing these from it, that washes are resorted to. In *acute ophthalmia of infants*, the author opens the eye every ten minutes and inserts a piece of ice within, or a few drops of a concentrated solution of alum and tannin; and however long the disease may last, no injury will accrue to the cornea if the discharge is removed by cold water as fast as formed. 4. Chronic ophthalmias, and especially in the aged, are far more favourably influenced by the use of cold from time to time than by its continuous use, the dilated vessels and exudations being thus more advantageously modified; and exudations are sometimes much influenced by sudden douches propelled with force, even if composed of warm water. These form, too, one of the best stimulants in nervous affections of the eye.

A second general rule is, that in the treatment of all ophthalmias, dependent on a constitutional cause, but not on a dyscrasis or cachæmia (as hæmorrhoidal, menstrual, abdominal ophthalmias), the local use of cold, applied as energetically as possible, is the best means. If severe, the *douche* may be continued, for six or eight hours. It is especially when there is a varicose state of the vessels of the eye left, or that *engorgement* of the choroid accompanies conjunctivitis, that these douches are so useful. So in atonic injection of the conjunctiva, especially the palpebral, the douche, repeated several times daily, is far more useful than any astringent injection.

A third rule is that in ophthalmias, seated on a tissue in a state of dyscrasis from evident alteration of the blood, whether it is a mere local symptom of such altered condition, or whether it has been induced by external agency, dry permanent cold, not moist cold, which would favour softening of the cornea, is indicated.—(*Annales d'Oculistique*, xxiv, 100–17.)

#### ART. 70.—*Treatment of Purulent Ophthalmia in Infants.* BY DR. JACOB.

(*Dublin Medical Press*, Nov. 1850.)

To the *treatment* of purulent ophthalmia in infants, the principles laid down respecting two other severe forms of conjunctival inflammation are applicable. As soon as the existence of the disease is fully ascertained, a leech should be applied over the cheek-bone at the edge of the orbit, and blood allowed to flow until the effect of the bleeding becomes obvious by the paleness or sickness of the infant. One or two leeches, at most, on each side, is sufficient for this pur-

pose; and as all the effects of general bleeding are produced by the application of leeches at the earlier periods of life, and as the flow of blood does not usually cease spontaneously in infants, on account of the great vascularity of the skin, the medical attendant should not lose sight of his patient until he has secured such arrangements as will prevent the possibility of the child's life being endangered by hæmorrhage. It is on this account that the leeches should be applied on the cheek-bone at the edge of the orbit, where, from the resistance of the bone beneath, circumscribed pressure may be made without delay. The bowels should be emptied completely; and for this purpose a grain of calomel, with castor-oil or any other purgative to which the practitioner may be partial, may deserve a preference. If it be admitted that the administration of calomel influences the biliary secretion, its use is particularly indicated at this period of life, when the liver performs an office in the animal economy of still greater importance than it does at more advanced periods. If the child continue to suck voraciously, it may be desirable to rid the stomach occasionally of the accumulated milk by the administration of a small quantity of ipecacuanha or other emetic medicine. As soon as the purulent discharge becomes profuse, care must be taken to prevent it from accumulating with the tears beneath the lids, and producing by mechanical distension an increase of the irritation and distress. This accumulation is frequently produced by the eyes becoming sealed up by the evaporation of the fluid part of the discharge which has collected on the outside of the lids. To prevent it, the eyes should be perpetually sponged gently with luke-warm water, and by laying a scrap of old linen squeezed out of warm water over the eyes as the infant lies on its back in bed. The edges of the lids may be touched with a little cream when the child settles for a longer sleep, and when it awakes the lids should be gently drawn open, and the accumulated matter forced out by light pressure and motion of them. Repeated syringing of the eye is unnecessary, and is often injurious by adding to the irritation; the purulent discharge causes no mischief but by its bulk producing distension in the way above stated, and is probably the best, being the most natural, protection of the surface against the contact of the tears. When the practitioner makes his visit, it is, however, necessary to wash away the discharge completely, in order to obtain a perfect view of the cornea; this may be done with a syringe, for which purpose a neat silver one with a fine orifice should be used; but as this may not be at hand, and as many may not wish to run the risk of spattering the discharge into their own eyes, a more simple and equally efficacious method may be adopted: the infant's head being laid on the knees of the operator while the body is supported by the nurse, the eyes should be well sponged externally, and the lids drawn open and closed repeatedly, so as to extricate the discharge, which should again be removed with the sponge. After the child ceases to cry, a few drops of warm water should be allowed to flow into the eye between the lids out of a large camel-hair pencil, and the lids opened and pressed as before; after which the child should be, if possible, set asleep for a moment, and then the eyes being suddenly drawn open, a full view of the cornea may be obtained.

Local applications may be resorted to with two objects,—the alteration of the nature of the inflammatory action altogether, or the diminution and removal of the purulent discharge. For the former object, the nitrate of silver is recommended, and it cannot be denied that it may effect it: but it must at the same time be confessed that the practice has not yet been fully submitted to the test of experience. The question for consideration is, whether a practitioner, as soon as he has ascertained beyond doubt the existence of this severe form of inflammation, can with safety, and a fair prospect of advantage, introduce a solution of nitrate of silver of ten grains to the ounce, or an ointment of ten grains to the drachm, between the lids. That this and other astringents may be used with success to put a stop to the purulent discharge, after the first symptoms of inflammatory action have been subdued, cannot be doubted. With this view a five-grain solution of nitrate of silver, or saturated solution of acetate of lead or alum, may be resorted to; the acetate of lead cannot, however, be employed if slough or ulcer be present. A large drop of saturated solution of alum may be put into the eye once or twice in the twenty-four hours, and the nurse may be



allowed a weaker solution of four or five grains to the ounce to use occasionally. Mr. Mackenzie recommends a solution of one grain of corrosive sublimate in an ounce of water, as a wash to be freely used.

If slough or abscess has taken place, it does not appear that any other than the plan of treatment above stated can be adopted, or that any local application can be made likely to suspend the progress of either one or the other. Mr. Saunders, reasoning on the fact that bark and other tonics are employed with advantage in gangrene, and that the slough of the cornea is of this character, directed the administration of extract of cinchona in such cases. It does not, however, appear that the cases are analogous, or that the remedy does actually prove of advantage. The slough or abscess is, in the present case, a consequence of intense inflammatory action not followed by any diminution of vital action, locally or generally, consequently not requiring remedies intended to invigorate the constitution, or accelerate the functions of circulation and nutrition. The suggestion of Mr. Saunders does not appear to have been much acted upon in general practice. After the slough of the cornea has been cast off, or the abscess completely converted into a healthy ulcer, or if the iris be prolapsed, and has assumed a red granulating appearance, the greatest service the practitioner can afford his patient is to prevent any injudicious interference with the natural processes of reparation which are in progress.

#### ART. 71.—*Dieffenbach's Operations for Prolapsus Ani.*

(*Brit. and For. Med.-Chir. Rev.*)

MR. DIEFFENBACH followed four distinct methods according to the nature of the case; the preliminary treatment in all consisting in a dose of castor oil the day before, and an enema of warm water immediately preceding the operation. The patient is bent forward over a table, the nates being separated by an assistant.

1. *Diminution of the anal opening by excision of folds around it.*—After returning the rectum, one of the cutaneous folds which surround the anus like radii is seized by a pair of sharp-hooked forceps half an inch from the opening, and the fold is then cut away close within the opening by a pair of straight sharp-pointed scissors. Four, five, or even more strips are successively removed in the same manner, so that the anus is surrounded by a wreath of bleeding rays. The more lax the skin, the broader must be the strips removed. The wounds must be at equal distances from each other; for when two are close together, the small intervening portion of skin is easily destroyed by suppuration, and one wound results, which is so large, that the subsequent cicatrix and stretching of the skin are injurious. Cold-water dressing is then employed. In slight cases, where the prolapsus only consists of one or two folds of mucous membrane, which can easily be replaced, this plan is to be adopted, and it is generally successful. In more severe cases, it is either useless, or but of temporary utility.

2. *Excision of wedge-shaped pieces from the anus* is recommended when this part is greatly weakened, but not entirely paralysed, and when the prolapsus consists of large, fresh, unaltered folds of mucous membrane, which only project during the act of defecation. When the projection is only on one side, but one wedge is excised; when it is on both sides, or when it forms a sort of ring, a wedge must be removed from each side. The prolapsus is returned; a sharp hook is passed within the anus as far as the edge of the part returned, and carried through the membrane and first fibres of the internal sphincter ani; the hook is drawn a little outwards, and the wedge cut away with a small scalpel. When the prolapsus is not great, the wedge may be small; but in more severe cases, Dieffenbach has often excised two wedges, an inch wide on each side. The edges of the wounds are immediately brought together by strong sutures, and cold-water dressing used. The result is most satisfactory, the cure complete, and relapse never occurred in Dieffenbach's practice.

3. *Excision of parts of the anal ring and of the callous prolapsus* is indicated when the opening is very much widened, the prolapsus old and large, the folds of

mucous membrane dense, firm, and hard, or loose and spongy, with large permeating veins, the patient having suffered from continual hæmorrhage. The operations upon old and hard, or soft and spongy prolapsus, differ, but in both the part must be protruded at the time of operating. In the first class of cases, the projecting fold is seized by a pair of forceps, and a strong suture passed through its base; the ends are kept on opposite sides, while the fold is removed by a pair of scissors, in a semicircular direction around the anus; the ends are then brought together, and serve the purpose of fixing and drawing forwards the edge of the wound, while fine sutures are passed to unite them. This is all that is necessary in cases where the anal opening is not very large. When it is so, a wedge must be excised from it, in the manner described in the preceding paragraph, the two wounds forming together a T. In very severe cases, it is dangerous to do too much at once, and it is far better to complete the operation after two or three intervals. The convolutions having been removed, and the wound healed, after a month or so, when the patient is quite well, the wedge may be excised.

*Extirpation of the spongy prolapsus*, which consists of the convolutions of the loose sanguineous mucous membrane of the rectum, is performed in the manner just described, when the prolapsus is partial, and the anal opening narrow. When it is total and large, the operation is first performed on one side—that of the greatest protrusion—in a different manner. The part is seized by a pair of curved forceps, resembling those called entropium forceps; and the convolution is then cut away by scissors, close to the edge of the forceps. The edges of the wound are immediately closed by fine sutures, as severe hæmorrhage often comes on. The part removed includes the centre of the prolapsus, and extends at one end to the skin surrounding the anus, and at the other, to the mucous membrane of the rectum. The rectum is cleaned by injections of cold water, the patient kept in bed, and cold applications used. An opiate is given to prevent defecation during the first day. Sometimes this alone effects a cure; in other cases, it is necessary to repeat the operation on the opposite side, after the patient has quite recovered from the effects of the first. Dieffenbach relates some remarkable cases, in which patients who had been extremely reduced by continual bleeding and suffering, were thus restored to perfect health.

5. *Cauterization*.—When the external and internal sphincters of the anus are paralysed, the anal opening is often so large, that a doubled fist can easily be passed through it, and the intestine can only be kept within it by some mechanical contrivance. Removal of the parts of the prolapsed intestine would be useless in such cases; as fresh protrusion would continually take place. Excision of parts of the borders of the opening also proves useless, as the cicatrices soon become soft and yielding. The actual cautery, however, suffices to effect a cure, acting partly upon the nerves, and partly by the formation of contracting cicatrices. The anus being protected by the introduction of a ball of charpie, a cauterising iron, of the size of a large walnut, is applied upon the skin surrounding the anus, and repeatedly carried slowly around the opening, so that an eschar is formed, an inch or an inch and a half in width, and the skin appears as if burnt to leather. The iron must be carried close to the line of connexion between the skin and mucous membrane. The charpie is removed from the anus, a smaller quantity introduced, and a wad of cotton-wool laid upon the eschar. The patient is placed in bed, and an opiate given. Cotton-wool is applied until separation of the eschar at the edges commences. Stimulating poultices are then used. After complete separation, the suppurating surface is dressed simply, and castor-oil given. When cicatrization is complete, the patient is perfectly cured. Dieffenbach has found the opening so much narrowed, that bougies had to be used for some weeks; but this is rare, and the general result is most gratifying both to surgeon and patient.

ART. 72.—*Lanceolate Director for the Treatment of Ganglion.*

By JOHN MAUND, Esq., M.R.C.S.E.

*(Medical Times, Jan. 11, 1851.)*

[Mr. Maund has published a case of ganglion treated by an instrument, of which he gives the subjoined description. He says:]

I have had the instrument made in various ways; but the most simple, cheap, and portable, and therefore more particularly advantageous for the use of the country surgeon, to whom it is an important object to be able to perform as many operations as possible with the same instrument, and that a simple one, is such as is illustrated in the accompanying engraving:—(a)

The instrument is somewhat similar to the common director,—the section of a cylinder, which may be made thicker or thinner, or plated with silver, as desired. One extremity has a sharp lanceolate point, with a groove extending along the instrument within an eighth of an inch of the point, at a short distance from which is a hole or eye through the groove from before backwards. Near the opposite end, which is nicely rounded, that it may serve the office of a probe, there is a hole from side to side; this, however, should not interfere with the regularity of the bottom of the groove, or it may destroy the point of a knife when used as a common director. To render the instrument still more complete, a silver canula, about half the length of the instrument, should be accurately fitted to it, which may be drawn on or off either end of the director. One extremity of the canula should be somewhat funnel-shaped, but compressed, to render it more portable. The whole may be added to the usual pocket-case, or may be contained in a very small ivory or ebony case; and it will form a most useful pocket surgical companion.

In my practice this little instrument has served me as a probe, a director, a trocar and canula, a suture, seton, exploring and aneurism needle, as a general scarifier for the conjunctiva, tonsils, gums, &c.

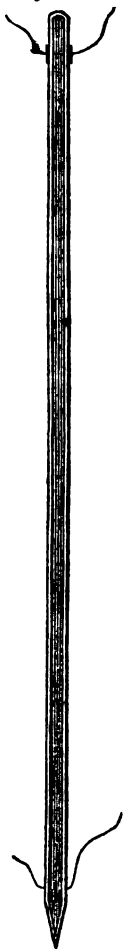
I have used it with perfect success in hydrocele, both with and without the canula. In one case, where the fluid had been simply evacuated before, and re-accumulated, I first removed the fluid with it, and then employed it to scarify the tunica vaginalis, which occasioned no unusual inconvenience, and effected a radical cure.

For the introduction of small setons, it may most conveniently be used; and from one of the eyes being near its point, the whole of the instrument need not necessarily be passed through the wound. It may be used to evacuate abscesses, either by small openings or subcutaneously.

It has been all-sufficient to introduce caustics, &c. (either solid or fluid), into tumours or cavities, where a syringe or more appropriate apparatus could not be procured. Any solid matter may be placed in the groove of the instrument, and covered with the canula, until it arrives at the part where its application is desired, when the canula can be withdrawn. Of fluids, too, an all-sufficient amount can generally be introduced by having the end of the canula made more funnel-shaped than usual; or thread or

cotton may be saturated with a solution, and placed in the groove, and retained in its position by being passed through the eye near the point of the director, until it arrives at its required destination.

Lastly, I may add, I have found it of great service in the dissecting-room in the operation of "tying arteries," supplying all that is required, at least in the superficial vessels, after the first incision is made.



ART. 73.—*On an easy Mode of reducing a Dislocated Femur.*

By Dr. MAYR.

*(Casper's Wochenschrift, and Medical Times, Dec. 7, 1850.)*

Dr. Fischer, of Cologne, published in *Casper's Wochenschrift*, Nov. 1, 1849, an account of his mode of reducing dislocation of the femur, and which consists in flexing the femur to an acute angle with the trunk, and impressing upon it gentle rotatory movement while in a state of abduction if dislocated on to the pubes, and of adduction if dislocated on to the ilium. Dr. Mayr, without being then aware of this procedure of Dr. Fischer, resorted to it in a case that occurred lately to himself. A man, æt. 31, dislocated his right femur upwards and backwards; and, after repeated attempts at reduction, even by the pulleys, had been made, the author was called in on the 13th day after the accident. After he had in vain tried the ordinary plan of extension and counter-extension, he resorted to the following means. The opposite limb and the pelvis were fixed, the operator flexed the femur upon the trunk, and, passing one arm under the ham while he grasped the calf with the other, he imparted rotary movements of gradually increased strength to the limb. As soon as he perceived a greater mobility of the head of the femur, he brought the limb into a state of strong abduction; and when, still continuing the rotation, the head had approached the acetabulum, he was able, by a rapid and strong pull inwards, to slide it into its pan, which it entered with a loud noise. The gentle rotatory movements mentioned by Fischer did not succeed here, all his force being required in their production, which may be probably due to the time the bone had remained unreduced.

The anatomical structure of the parts also recommends this procedure. In front of the thick edge of the acetabulum, the under surface of the ilium forms a perceptible depression, and if the directions given in the manuals are followed, of making the traction obliquely from outwards inwards, and somewhat from behind forwards, be followed, the head of the bone must meet in this depression with a considerable obstacle to its progress. This sometimes even invincible obstacle appears to be avoidable by resorting to abduction.

[Mr. Clark, of Southampton, in referring to the above communication, states that he published a similar process seven years since in the 'Lancet' and 'Provincial Medical Journal.' The case was that of a muscular man, about 30 years of age, who, from an accident on shipboard, had dislocated the left femur backwards. The head of the bone seemed determinedly fixed on the dorsum ilii, so as to resist effectually all our attempts to dislodge it by continued traction in the usual way, when it occurred to Mr. Clark that the manipulation by which we disengage the leg of a fowl for example, in carving, was just the kind of action wanted in this case. The same abduction which brought the head out of the acetabulum forwards in one case, would in the other raise it from behind the acetabulum, and place it in a position to fall readily into its natural cavity, and this without having any powerful muscular action to overcome.

He therefore placed the patient supine on the bed, and, by a towel round the pelvis, fixed to the opposite side of the bedstead, with the help of assistants, kept these bones immovable. He then drew up the left foot till it rested against the inside of the other knee, where an assistant held it.

In this state, it is obvious, that the head, neck, and shaft of the femur are all on the same plane, which also intersects the acetabulum, so that any motion of the extremity of the bone outwards must necessarily move the head of the bone in the desired direction. Applying, then, his right hand upon the trochanter major, he gradually abducted the knee with the left, using the slightest effort, when, with an audible start, the reduction was at once accomplished.

## SECTION IV.—RARE SURGICAL CASES.

ART. 74.—*Dislocation of the Clavicle downwards, beneath the Acromion Process of the Scapula.* By RICHARD G. H. BUTCHER, F.R.C.S.I.

(*Dublin Medical Press*, April 9, 1851.)

Martin Gibson, æt. 50, a powerful muscular man, presented himself amongst the external patients at Mercer's Hospital, December, 1849. The resident pupil, Mr. Knox, at once directed the author's attention to him as having sustained a recent injury of the shoulder. On examination, it was found that the scapular extremity of the clavicle was dislocated downwards beneath the acromion.

The mode in which the accident occurred was the following.—The man was assisting a comrade in carrying a heavy press, the edge of which rested on his right shoulder. The load was too great for him, and he yielded under it, the weight changing its position farther in upon the clavicle; in falling, he thrust his hand out rigidly against the ground in the effort to save himself; this checked his fall, but, from the resistance offered, the humerus, with the scapula fixed upon it by its powerful capsular muscles, were driven forcibly upward, while the weight still acted on the clavicle, tearing through its ligaments and impelling it downwards; thus the two forces, tending in contrary directions, combined towards the production of this rare displacement. On removing the clothes from the upper part of the body, and viewing the patient in front, the most striking characteristic was the non-symmetrical distances between the external margin of the acromion processes on the right and left sides and the mesial line of the sternum; that on the right being, by measurement, an inch and a quarter less. The right shoulder also presented a very remarkable prominence, formed by the acromion, and rendered more in relief by the depression internally, occasioned by the clavicle passing beneath it; the lip of the latter could be felt a little to the outer edge of the external margin of the acromion, and lifting up the fibres of the deltoid; the superior edge of the articulating surface of the acromion was elevated, and might be discerned through the integuments; the fingers could be passed uninterruptedly from behind forwards along the spine of the scapula to its expansion into the acromion process. On pressure at its outer side, the projecting articulating end of the clavicle beneath it could be detected, as noticed above. The rotatory motions of the joint were perfect, and might be performed by the surgeon without pain or suffering; but on the part of the patient there was complete inability to elevate the limb.

The deformity was removed when the shoulder was drawn forcibly back, or by the following manœuvre: first, drawing the arm a little backwards, keeping the extremity of the humerus close to the side with the right hand, and with the left grasping the upper part in the axilla, then by pressing the shaft of the bone upwards and outwards, and at the same time carrying its inferior extremity forwards in a line with the anterior wall of the axilla, and continuing the force upwards, the acromion process was disengaged from off the clavicle, and by using a pad in the axilla, and retaining the arm in this position, excellent coaptation was effected. After the pain and uneasiness about the joint had subsided, he became intolerant of restraint; and in five weeks used the limb with nearly as much freedom as the sound one, but with considerable loss of power.

The author has been induced to publish this injury of the shoulder—first, because of the great rarity of its occurrence, and its not being noticed in the modern works on surgery; and, secondly, because such a displacement is denied altogether by some surgical writers.

In allusion to this point, Sir Astley Cooper expresses himself thus: "It is scarcely probable that the clavicle should be ever dislocated in any other direction than upwards. At least, I have never seen an instance of the clavicle gliding under the acromion; but I would not deny the possibility of such an accident."

The late Mr. Samuel Cooper, in his grand repertory of all surgery, represents his views in the following terse sentence:—"Dislocation of the scapular end of

the clavicle from the acromion upwards is the only case." And Mr. Bransby Cooper says: "I have not seen the clavicle thrown under the acromial process of the scapula, neither do our best authors upon the subject describe it as having occurred in their practice; it would be useless, therefore, to dwell upon its indications."

A well-described case of this accident is given by Tournel in '*Archives Générales de Médecine*,' 1837, and another has recently been treated by Mr. Partridge, in King's College Hospital, London, and alluded to in the '*Lancet*' for January, 1850, in these terms: "The unusual circumstance of the case is, that the acromial end of the clavicle is dislocated, not upon the acromion, as is commonly the case, but *below* that process,—a fact which the fingers easily detect. There is no fracture, as might first have been imagined; but this rare displacement has taken place, probably owing to the peculiar manner in which the horse or vehicle struck the patient's chest."

ART. 75.—*Fistula in Ano in a Child 3½ years old.* By Mr. FOSTER.

(*Lancet*, Feb. 22, 1851.)

The patient is a stout healthy-looking boy, 3½ years old, who was brought to Mr. Foster, at the Surrey Dispensary, with a small opening on the left side of the anus, about one inch distant from the anal orifice. The child's parents are healthy; and previous to this opening forming he had not suffered from any infantine disorder, though he has had measles and whooping-cough since. The mother stated that about fourteen months ago, (the child being then only twenty-eight months old,) she found, without any premonitory symptom, a hard lump forming in the left ischio-rectal fossa, and a small pimple, which, after swelling considerably, broke and discharged a table-spoonful of pus. There was no constitutional disturbance, and the abscess, to all appearance, healed shortly afterwards; but the scab which had formed fell off, more discharge came away, and from that time until the present, the opening has been sometimes closed, and at others discharging profusely. Several applications were advised; but the true nature of the affection seems scarcely to have been suspected, judging from the means employed for its cure. Mr. Foster passed a small probe very readily along the track of a sinus, the walls of which were dense and callous, up into the cavity of the rectum. The sinus seemed to communicate freely with the rectum, as the probe entered the latter without any force being used. Upon introducing the finger into the anus, the end of the probe was easily felt and brought out; and Mr. Foster divided the sphincter and intermediate parts, thus completely freeing the probe.

The hæmorrhage was very slight; a piece of lint was put into the wound in the usual manner, and the child had two motions before sufficient suppuration to free the lint had taken place. Mr. Foster is not in the habit of using any applications after the lint; he merely takes care that the parts be kept clean, and considers the plan of passing a piece of lint daily into the wound quite unnecessary, unless the latter be very sluggish. The wound healed very rapidly, as might be expected in a patient of such tender years.

ART. 76.—*Peculiar Injury of the Ankle Joint.* By Dr. POWER.

(*Dublin Medical Press*, April 23, 1851.)

At a meeting of the Surgical Society of Ireland, the following case was brought forward, and illustrated by a cast.

The patient was admitted into Jervis Street Hospital on the 12th of November, 1850, suffering from an injury recently inflicted on his left lower limb. The age of the patient was about 28, and he was by occupation a sweep. As soon as Dr. Power visited him, he was at once struck with the peculiar features of the accident, all of which are represented with the most remarkable accuracy in the cast which he produced before the Society. The foot was rotated inwards to a

considerable extent; the outer edge of the foot was directed outwards and downwards, so that when the patient attempted to stand, it was this part of the foot which alone pressed against the ground. The inner edge or margin of the foot appeared lifted up, and looked upwards and inwards. The dorsum or upper surface looked upwards and outwards, and the sole of the foot was directed downwards, but at the same time inwards—i. e., looking obliquely towards the foot of the opposite side.

The *external malleolus* formed a stronger prominence than natural, and, instead of the ordinary well-marked sulcus being found underneath it, there existed a firm ridge of bone which accompanied the motions of the foot, and totally disappeared whenever the latter was restored to its natural condition. On measuring from the lowest point of the external malleolus to the outer edge of the foot, the measurement was half an inch greater than when the foot was fully restored to its natural position. The internal malleolus appeared, comparatively speaking, buried at the inside of the joint in a retiring angle formed between the foot and leg; still it could easily be detected and distinctly felt. The *inner* edge of the foot appeared drawn up towards *this malleolus*, and on measuring the distance between these two points, they were nearer to each other by half an inch than when the limb was in its ordinary position; in fact, the foot had very much the aspect of *talipes Varus*.

On making firm pressure with the finger, it could be made to sink into a longitudinal groove situated between the tibia and fibula; the latter was unbroken. By flexing the leg upon the thigh, and then with one hand laying hold of the heel, while the anterior part of the foot was grasped by the other, and by drawing the foot downwards from the leg, and rotating it outwards, the foot could be easily restored to its natural position. When so replaced it was clearly ascertained that there was no fracture.

ART. 77.—*Case of Volvulus cured by Gastrotomy.* By Dr. REALI.

(*Revue Médico-Chirurgicale*, Janvier 1851.)

Volvulus, whether consisting of internal strangulation, or intussusceptio of the intestines, is generally looked upon as beyond the aid of art. The great obstacle to operative proceedings for its relief, is the uncertainty as to the exact site of the obstruction; but when this is clearly ascertained, that gastrotomy is a justifiable procedure, is shown by the result of the following case:—

A peasant, aged 30, of athletic form and vigorous constitution, the subject of inguinal hernia, undertook severe labour after eating a quantity of cherries, swallowing the stones. After working some time, he was seized with pain in the hypogastrium, soon followed by vomiting. Dr. Realì on examining the abdomen found the hernia perfectly free; but at a short distance from the right iliac fossa, there was seen a shining tumour the size of a pullet's egg. For four days there was no action of the bowels, the vomiting became stercoraceous; and as the patient's death appeared inevitable, gastrotomy was resolved upon as a last resort.

The patient being etherised, an incision of four inches was made, commencing at an inch below the umbilicus, and extending nearly to the pubes. The parietes of the abdomen being divided, and the peritoneum opened, the epiploon was raised, and the intestines being pushed aside, the operator introduced his hand towards the tumour, which was found to consist of a fold of ileum twisted upon itself, so as to form a ring which could not be liberated. Under these circumstances the surgeon made three incisions into the projecting intestine; the incisions were united by suture, and the operation was completed by closing the abdominal wound.

The patient took ice freely, and cold applications were used. The day after the operation the abdominal pains ceased, as also the vomiting and hiccup, and on the second day there was free alvine relief. Subsequently symptoms of enteritis ensued, with an erysipelatous blush around the external wound. On the fourth day the sutures were removed, the edges of the wound being gangrenous. On the twentieth day the fetid suppuration was much abated, and the wound

assumed a healthy aspect, but complete cicatrisation did not occur till after four months.

[This case undoubtedly exhibits the propriety of opening the abdomen in cases of obstipation, when the situation can be clearly or even approximatively made out. The incisions into the intestines were, in our opinion, unadvisable; and to them, with the partial fecal extravasations which probably ensued, may be attributed many of the untoward symptoms which delayed the patient's recovery.]

ART. 78.—*Spontaneous Collapse of the Antrum.*

By W. WHITE COOPER, Esq., F.R.C.S.

(*London Journal of Medicine*, April, 1851.)

This rare case occurred in the person of a robust female, aged 25. Her appearance was remarkable; there was a deep purple depression between the side of the nose and the malar bone on the left side, looking precisely as if a portion of the maxillary bone had been removed. The depression was bounded above by the inferior margin of the orbit which partook of the depression, inferiorly by the alveolar process and malar bone, and in the centre by the nose. The distance from the bridge of the nose to the bottom of the depression was an inch and four-tenths.

Until seven years previously her face had been symmetrical; but about that time she perceived a dusky mark beneath the left eye, unattended with pain. This mark gradually extended, and some flattening of the cheek became perceptible; this gradually increased until the face assumed its present appearance. A week ago some stillicidium lachrymarum ensued.

Her teeth were *in situ*, but greatly decayed, and the gums were in an unhealthy state, but the alveolar process was sound.

Mr. Cooper has failed to find any account of this singular affection in the records of surgery, the only approach to a reference to it being in Otto's 'Compendium of Pathological Anatomy.' Nothing is suggested to remedy it by Mr. Cooper or Mr. Fergusson, who saw the case.



## PART III.

# MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

---

### SECT. I.—MIDWIFERY AND DISEASES OF WOMEN.

ART. 79.—*On the Diagnosis of Uterine Diseases.*  
By PROFESSOR SIMPSON.

(*Edinburgh Monthly Journal*, Feb. 1851.)

[The Professor commences a valuable clinical lecture on this subject by descanting on the comparatively low state of medical information on uterine diseases, the difficulty of their diagnosis consequent thereupon, and, necessarily, the uncertainty of treatment. He also comments on the variety of opinions which have been taken up as "hobbies" by different practitioners,—such as, that all uterine diseases are the result of debility, or that they are due to congestion or to inflammation, or to neuralgia, or, lastly, that they are more ovarian in origin than uterine,—all which opinions have been dogmatically asserted at various times. He then proceeds more immediately to the object of his discourse, by dividing the symptoms of uterine disease into two classes: first, the Rational or Functional Symptoms; and, secondly, the Physical or Anatomical Symptoms.]

#### SYMPTOMS OF UTERINE DISEASE, EITHER 1, DYNAMIC, OR 2, PHYSICAL.

Under the Dynamic, Rational, or Functional Symptoms are included all those lesions, deviations, or derangements in the functions of the affected organ, in the functions of other organs that sympathise with it, and in the functions and state of the system generally, that can possibly be excited by the disease or diseases that we may happen to be investigating.

On the other hand, the Physical Signs or Symptoms consist of those means of diagnosis, and particularly of those exercises of the senses of touch, sight, hearing, &c., by which we can attain a knowledge of the anatomical structure, form, density, colour, position, &c., &c., of the organ which is diseased. By this latter set of symptoms or signs—the Physical—we attempt, in fact, to read and discover within the living body the actual morbid anatomy of the organ or organs that are affected. We endeavour by them to study and to ascertain, as exactly as possible, upon the living patient, those anatomical lesions and changes which we would expect to detect on the post-mortem examination of that patient, provided the disease proved fatal.

In detecting and diagnosing the diseases of the different organs and parts of the body, the practical medical man has recourse sometimes more to one of these sets of symptoms, sometimes more to the other. A diagnosis always becomes more and more accurate the more we can conjoin both means of investigation, and draw our deductions from both sources of evidence. Of the two sets, the rational or functional symptoms are the least to be depended upon; or, at all events, our diagnosis is always the less accurate, the less we can take advantage of the physical or anatomical signs.

Surgical diagnosis is, as a whole, more accurate than medical diagnosis. But why is the surgeon more accurate in the discrimination of the affections which he treats than the physician is? Merely because he can, and does, found his diagnostic deductions far more upon physical symptoms; while the physician is of necessity driven to depend more upon the rational or dynamic symptoms. In fact, in making a diagnosis of the diseases submitted to his care,—viz., those placed upon the external surface of the body,—the surgeon relies almost entirely upon physical diagnosis alone, because he can handle and examine the diseased parts by direct tactile examination, and by direct visual inspection. Deprive a surgeon of these means of physical diagnosis, and throw him back merely upon the functional or dynamic symptoms that may be present, without allowing him to exercise his sense of touch, or sight, or hearing, in the discrimination of the cases submitted to him, and you will find him as much or more at fault than the physician sometimes is. Take, for example, a case of any disease of the eye, leading on to imperfection and dimness of sight. No surgeon would venture to make a decided diagnosis of what that dimness or blindness was produced by, provided he were allowed to appeal to the dynamic or functional symptoms only. He might be told fully as to the mode and manner in which the blindness came on, as to its varieties under different circumstances, as to its being accompanied or not with pain or lachrymation, &c. &c.; but these and other circumstances would often be inadequate to enable him to decide whether the imperfection of vision arose from an affection of the cornea, or of the iris, or of the lens, or of the retina, or of some other parts; or by what particular affection of these parts it was produced; while an inspection of the diseased eye itself by the surgeon,—that is to say, a glance at the physical symptoms or physical diagnosis,—would probably enable him to resolve at once all these difficulties, and to ascertain determinately and unequivocally what the diseased state of the organ really was.

It is very different with the physician, in reference, at least, to some classes of affections. For in some he cannot avail himself of any of these measures of physical diagnosis which the surgeon finds to be so absolutely necessary to enable him to come to a correct decision in surgical cases. In affections, for example, of the brain and spinal cord, and of their membranes and component parts, the physician can, with a few rare exceptions, make use only, in his diagnosis, of the dynamic or functional symptoms. It is only these symptoms that he can reach in this class of diseases. For we have no means as yet, and, in all probability, will never have any, in this special class of affections, of ascertaining, in the yet living subject, what the special anatomical lesions are, that may be present in the encephalon or in the spinal canal. We cannot reach and search these cavities and their contents by any modification of hearing, or touch, or sight. We can ascertain the morbid derangements that may take place in them only by studying the changes and derangement of function to which their presence gives rise in the nervous system generally, in the different parts of this system, and in the functions of those organs which are liable to be more directly or indirectly influenced by that system.

In other classes of disease, the physician, however, has fortunately the power of appealing to physical signs as well as to rational symptoms. He can derive his deductions of the diseased states of the organs themselves from both classes of proof; and you will always find that in medicine our practical knowledge of these diseases has progressed proportionally with the amount and extent to which physical diagnosis has been applied in their discrimination. There is no set of organs, for example, the pathology and practical knowledge of which has advanced more in modern times than that of the organs contained within the chest. If you look into any work on the affections of the heart or lungs, written thirty or forty years ago, you will find a strange contrast between its contents and those of any modern work written on the same subject. Formerly, physicians were often in error in regard to their cases, as to what this or that thoracic affection might be; and their true nature was often only accurately detected after death. The modern physician has almost always the power of discovering what the affections of the heart and lungs are, even during the life of the patient; and can trace, usually with great accuracy, their morbid anatomy

while the patient is still alive. Mark what this difference between thoracic medicine, thirty or forty years ago, and that department of medicine now, is to be attributed to. It is entirely attributable to the fact, that while in former times physicians were obliged and necessitated to attempt the diagnosis of these diseases by functional symptoms only, they have now the power of aiding and correcting that method of diagnosis by ascertaining a series of physical signs appertaining to almost every disease of the heart and lungs, through the instrumentality of auscultation and percussion. No careful or judicious physician depends now for the diagnosis of these chest affections upon functional symptoms only; but he appeals constantly in aid of his diagnosis, to the more certain signs which may be derived from the pleximeter and the stethoscope.

I might safely repeat the same remark, and with nearly exactly the same degree of truth, with regard to the affections of the uterus and internal female organs. Formerly (and even in our own days still far too frequently) the physician has been led to suppose that he could make a diagnosis of diseases of the uterus by depending and relying upon functional symptoms only. A little practice will, however, I believe, readily convince you that in most cases we are necessitated to have recourse to a physical diagnosis in order to obtain anything like an accurate knowledge of the diseases under which our patients are labouring. Do not suppose that, in making this remark, I mean to imply that the functional symptoms are of no value. Nothing could be farther from my belief and conviction. I by no means wish to state that they are of no value; all I mean to state is, that they are not of sufficient value to make a sufficient distinction between the different individual or special diseases of the uterus and uterine appendages.

And now, having made these too diffuse introductory remarks, let me call your attention to what the *functional* and what the *physical* symptoms of the diseases of the uterus and ovaries really consist of. And, first, let us consider—

#### THE RATIONAL OR DYNAMIC SYMPTOMS OF UTERINE DISEASE.

The uterus performs at different times different functions. During menstruation its lining membrane forms and exudes the so-called menstrual fluid. In the intervals between menstruation we have merely a mucous secretion flowing from the same tissue. And, again, it performs from time to time a variety of important functions connected with conception and pregnancy. Under different states of disease, one or more or all of these functions may become perverted. In other words, the first division of dynamical symptoms liable to occur in uterine disease consist of—

1. *Derangements in the Functions and Vital Condition of the Uterus itself.*—Thus the function of menstruation may become irregular in regard to the time of its occurrence, or the duration of its appearance; or the quantity of the menstrual fluid which is thrown off; or the nature of that fluid may vary; and it may or may not be accompanied by pain and suffering; and pain, if present, may be constant, or it may be spasmodic or paroxysmal. The mucous secretion may be increased or diminished in its quantity or quality, or it may become occasionally or constantly mixed with blood or pus. The function of conception may be interfered with, so that sterility is the result; or the uterus may not have the power of carrying the fœtus beyond the second, fourth, or sixth month, the patient being subjected to a series of abortions or premature labours.

The natural states of sensation of the uterus and its appendages may also be altered and perverted. They may be decreased; but this is rare. Far more frequently they are increased to a degree amounting to actual pain; and the pain may appear under very different modifications. It may be continuous or intermittent; it may be dull and aching, or pulsative, or lancinating, and extremely severe. Often, when it is present, it is accompanied with a feeling of heat and tension; and far more frequently still, with a feeling of weight and bearing down. Almost all these pains, resulting from diseases of the uterus, or its appendages, are diminished by the reclining position, and increased by two circumstances,—by a long continuance in the erect posture, and by the active and congested state of the organs, which accompanies the secretion and elimi-

nation of the catamenial discharge. Most of the so-called local pains of the uterus are not situated in the position of the uterus itself, or at least in the central part of the pelvis; but the patient more frequently complains of them as located in one or other of the sides of the pelvis; most generally in the left side, in consequence, no doubt, of the left side of the uterus and left broad ligament and ovary being more liable to be irritated than the right, by the varying condition of the rectum, which enters the pelvis towards the left; and the distensions and accumulations in this portion of the intestinal canal are certainly often the more immediate exciting causes of uterine and pelvic pains, if the uterus and its appendages are tender and predisposed to suffer pain, in consequence of any diseased condition existing in them.

At present it would be out of place for me to dwell upon the irregularities and deviations which we meet with in practice in these functional symptoms of the uterus in uterine diseases generally, and in different cases of the same disease. But let me make this one remark as a caution to you, (I shall insist upon it more afterwards)—viz., that identically the same pathological affection does not always affect identically in the same way the functions of the uterus. You may have, for instance, fibrous tumours in the walls of the uterus, (one of the most frequent organic diseases in this organ,) producing, as local functional symptoms, increased menstruation, or menorrhagia; increased mucous secretion, or leucorrhœa; pain during menstruation, or dysmenorrhœa; and, in the intervals between the menstruations, constant uterine pains and bearing down, and irritation of the bladder and surrounding parts. But in other cases of exactly the same organic disease, more or fewer, or indeed all of these symptoms, may be entirely wanting.

Anatomists tell us that the cerebro-spinal nerves which come to the uterus are principally distributed to the cervix uteri; and hence it has been considered by some pathologists, that the diseases of this part of the organ ought to be accompanied with pain, although the maladies of the body and fundus of the organ may not necessarily give rise to this symptom. But the results of practice by no means bear out this theory. The two most common affections of the cervix uteri are—1, Chronic inflammation and its consequences—hypertrophy, ulceration, &c.; and 2, Carcinoma of this part. In practice, cases of both of these diseases from time to time occur, in which, though the disease has progressed far, yet the patient has not been made aware of its presence by any increased tenderness or pain in the part, sufficient, at least, to attract her attention; and it is frequently very difficult to persuade the patient—nay, sometimes difficult to persuade the medical attendant—that such serious affections are present, because they incorrectly believe and argue that such affections could not exist without the accompaniments of local pain and suffering.

II. *Dynamic Symptoms in other neighbouring Pelvic Organs.*—Dynamic symptoms often exist, in connexion with uterine disease, not in the uterus or its appendages, but in the parts and organs in their more immediate vicinity. There may be pains, for example, about the bladder or rectum; about the coccyx or sacrum; in the groins; or along the crest of the ilium, and (what is exceedingly frequent) down the limbs, along the course of the crural or sciatic nerves. Pains running from the lower lumbar region, or from the groins, down along the limbs, are felt, and often felt severely, by females even during common menstruation; and intermittent pains in the lower part of the abdomen, or uterine colics, (as they have been termed,) are common under the same circumstances, as well as in different varieties of morbid uterine irritation. The functions of the rectum or bladder may be interfered with. Defecation may be difficult or painful. Often, in uterine diseases, there is constipation: and sometimes a want of power to expel the feculent matter, as if there was a kind of paralysis of the rectum. This last occurs not unfrequently in cases of retroversion of the unimpregnated uterus. In many cases the functions of the bladder are more or less affected. Micturition may be too frequent,—a symptom that is common to many uterine diseases,—or there may be great dysuria, as is often seen in cases of pelvic cellulitis, &c.; or there may be complete retention, as from the pressure of uterine tumours; or the result may be the incontinence and impossibility of retaining the urine.

These various pelvic symptoms are, in some instances, mechanical in their pathology; in other instances, they are sympathetic results. In other words, they are occasionally the direct result of the physical pressure of the enlarged or displaced uterus upon the rectum, or bladder, or trunks of the affected nerves. But again, they may be present, and equally strongly marked, although the uterus is not unnatural in size or unnatural in position; and, consequently, when the origin of these symptoms cannot be mechanical. In these last instances, (and perhaps they are the more numerous class,) we speak of the resulting disturbances of function and increased sensations as sympathetic or reflex,—that is, as originating in an irritation primarily seated in the uterus and uterine nerves, but terminating and felt, secondarily, in the sensitive nerves of those other neighbouring parts which are affected.

This last remark leads me next to show you, that, in diseases of the uterus and its appendages, we have often the principal pains and sufferings of the patient not located in the uterus or in the pelvis itself, but located in other parts of the body; or we have a third series of dynamic symptoms, consisting of—

III. *Sympathetic Pains in different and distant parts of the Body.*—This important class of reflex sympathetic pains or neuralgias is often so marked and severe as to draw away the attention of the patient, and even of the practitioner, from the real nature and real seat of the original and primary malady.

Of late years, much important physiological and pathological information has been laid before the profession regarding what are termed reflex motions. You are all well acquainted with the nature and mechanism of the motions that are designated under that term. You all know that they are muscular movements created by excitation upon distant mucous and cutaneous surfaces, the impression made upon these surfaces being conveyed by a nervous arc, (which arc always passes through the spinal cord,) to those muscles that are ultimately set into contraction by it. The surface or part primarily irritated and excited is often, in this way, far removed from the muscles or sets of muscles secondarily called into action. I believe that often morbid sensations originate in the same way; and that you can speak as truly of reflex sensations as of reflex motions. In your surgical studies, you have all studied one form of reflex sensations,—viz., the severe morbid pain in the knee-joint, which is so frequently found to accompany the early stage of morbus coxarius. It is impossible to explain, upon any mechanical principle, why a patient, labouring under disease of the hip-joint, should have the principal pain in the knee-joint. It is not explicable by reference to any amount of swelling in or around the diseased hip-joint, compressing the trunk of those nerves that supply the knee. In fact, the sympathetic or reflex pain in the knee occurs most generally in the very commencement of the disease, when the lining membrane merely of the hip-joint is as yet affected, and when there is as yet little or no swelling or effusion. An impression, or excitation, is conveyed from this affected membrane by the nerves which are distributed to it, and this impression is probably conveyed by them upwards, as high as the spinal cord; and then another impression would seem to be reflected or conveyed downwards from the cord along another set of nerves,—viz., along those the branches of which are ultimately distributed to the knee-joint, the immediate seat of the so-called sympathetic pain. Or, perhaps, we may state the matter more correctly, if we say, that the trunk of the nerve going to the knee has a morbid sensitive impression made upon it somewhere during its course, as it passes through one of its higher plexuses, or at its origin in the cord itself, producing a change in it as if its own branches in the knee were painfully affected. Irritation of the mucous membrane of the bladder, (to take another example,) often gives rise to sympathetic or reflex pains in the orifice of the urethra, and along the course of the lower extremities. I have seen several cases where the small, red, granular, and very painful sensitive tumour which sometimes grows at the orifice of the female urethra, was accompanied with distressing pain in the heel and sole of the foot. But it is needless to go to other organs in search of such examples; the uterus itself affords us many marked instances, even when it is not diseased. Thus, when the uterus is distended and irritated in pregnancy, the patient often complains of reflex or sympathetic pains in the lumbar region, in the mammae, in the nerves of the teeth, &c. When the uterus

is the seat of actual disease, such reflex pains are, as I have just now stated, often very marked; and, at the same time, they are very apt to deceive and mask the original and primary disease. Some years ago, I saw a case, with Dr. Johnston, of Berwick, which made a strong impression upon my mind in relation to this question. The lady had been under the care of an eminent London accoucheur, and complained to him principally of pain in the *mammæ*, for which he had ordered, at different times, leeches, and a sufficiently varied course of sedative local applications, and numerous internal remedies. But he had not once examined into the condition of the uterus, which was the source of the sympathetic pain in the *mammæ*. She was suffering, in fact, not from any diseased state of the *mammæ*, (the organ which the physician was so assiduously treating,) but she was suffering under a slow corroding carcinoma of the cervix uteri. At the time I saw her, the disease had already destroyed almost the whole tissue of the cervix, leaving the remainder of its excavated walls hard, rough, and indurated, like the interior of a dice-box. The dependence of the reflex or sympathetic pains seen in uterine cases upon the uterine irritation itself, as their primary source, is best seen in cases of displacement. By restoring a displaced uterus to its natural position, even though only temporarily, you generally at once moderate or entirely remove the attendant sympathetic effects. We cannot have the same precise proof in other uterine diseases, as ulcer, cancer, &c., because we cannot make the experiment of at once removing the primary irritation.

The reflex or sympathetic pains under which patients suffering from uterine diseases are liable to complain, may be situated in very different parts of the body. I shall enumerate the principal of them, and that, as far as possible, in the order of their frequency.

*Pain in one or both mammæ* (such as occurred in the case I have just now alluded to), is very common in many forms of uterine irritation or disease; but is seldom so very severe as it was in that instance. It is often accompanied by some degree of swelling or tension in the gland; and occasionally the areola becomes somewhat darker and changed, as in pregnancy. These mammary symptoms are particularly liable to be increased at the period of menstruation. If a patient complains to you of pain in this part of the body, without your being able to trace any local affection of the mamma itself capable of creating it, always make the necessary inquiries and investigations, in order to know whether some congestive, or inflammatory, or other diseased action, is not going on in the uterus.

*Pain under the left mamma*, and upon the edges of the ribs of that side, is also very frequent, perhaps even more so than pain in the mamma itself. It has sometimes appeared to me to be more common in cases of uterine or ovarian disease occurring in the unmarried than in the married. It is probably as frequent in cases of uterine affections, as pain in the shoulder is in cases of hepatic affections. This pain under the left mamma is sometimes diffused along the side; but more usually it is limited, and the patient will tell you that she thinks she could cover the whole of the pained spot with a crown piece. When it is not severe, it is not affected by the act of respiration; but in more severe cases, it is increased by deep inspiration; and many a poor patient has been bled and leeches, &c., over and over again, under the idea that this pain was an indication of pleuritic inflammation, when, in fact, it had nothing to do with pleurisy, or any disease of the chest, but was merely a sympathetic or reflex pain, and one entirely resulting from uterine irritation.

*Pains in the right side*, or right hypochondriac region, are much more rare, but are still sometimes also to be met with.

*Pain in some of the vertebrae of the back*, imitating spinal irritation, is often also an accompaniment of uterine irritation, and is not unfrequently combined with the existence of the pain under the left mamma. The patient principally complains of it when the part is pressed. Many a patient suffering from these sympathetic vertebral pains, in consequence of uterine derangement or disease, has been laid up and counter-irritated with the cauter, moxa, &c., under the idea that there was actual spinal disease present.

*Pain in the lumbar region, or in the sacral or lumbar region combined*, is especially common, as a sympathetic morbid sensation, in uterine diseases, but particularly

in those which consist of any displacement or enlargement of the organ. The great sacro-lumbar pain which the woman in labour suffers in the same part, is itself entirely a reflex or sympathetic pain of the character that we are speaking of.

*Pains in the abdominal parietes* also occasionally occur. Sometimes they are limited to one or other side, occupying the site of the ascending or of the descending colon. Occasionally they are confined to a limited spot. But in other instances, we find the whole surface of the abdominal walls tender and neuralgic. And when this is the case, there is often co-existing a greater or lesser degree also of tympanitis,—a kind of combination which is very apt to deceive the young practitioner into the idea, that the disease of his patient is really more formidable than it actually is; for the combination may lead him to suppose that he has to do with a case of acute peritonitis, or (if it is of longer standing) with a case of serious enlargement and organic disease of the uterus, or ovary, or some abdominal organ. In some cases, the apparent tenderness is so great, that the patient timidly shrinks under the least touch, and is even terrified at the approach and pressure of the hand of the practitioner.

*Pains in the extremities and joints* are sometimes secondary morbid results, when the primary morbid irritation or disease is seated in the uterus. I have already stated to you that pain, stretching from the loins or pelvis downwards, along one or both of the lower extremities, is a very common symptom, indeed, in uterine disease. In ovarian enlargement there is sometimes (particularly in the earlier stages of the disease) a morbid sensation of numbness and pricking in the corresponding limb; but this effect is probably mechanical,—the consequence, that is to say, of pressure upon the nerves of the limb, and not true reflex or sympathetic results. I had occasion also to mention the occasional excitation of reflex morbid pain in the heel and foot, by the small sensitive vascular tumour that occasionally grows in and around the orifice of the female urethra. Other forms of irritation in the urinary canals may excite morbid pains in the same distant part; and I have met with them also, but more rarely, in uterine cases, in which I could not trace any primary pathological disease in the kidneys, bladder, or urethra. Under the name of hysterical knee-joint, surgical authors describe a painful affection of that joint, occasionally accompanied by swelling and apparent effusion, and which has often been mistaken for the common white swelling, or scrofulous disease, of the same part of the body. The pain and other symptoms are so chronic and so marked, as sometimes to have led the surgeon to amputate the limb for supposed incurable disease of the joint. I feel well assured that in these cases the pain in the knee is almost always, or, indeed, always, a secondary or reflex pain, and that the primary source of irritation will be found in some other distant organ, and very often, indeed, in the uterus or ovary. Similar pains in the other joints of the extremities seem rarer, but are not altogether unknown. At present I have a patient suffering under chronic inflammatory ulceration of the cervix uteri, and profuse purulent discharge from that part, with much pain and tenderness in the canal of the vagina. But she is suffering still more from severe pain and tenderness of the skin and tissues lying over the head of the right radius. This pain in the arm has sometimes been so excessive as to deprive her of rest; and she herself maintains that it decreases and increases in correspondence with the changing state of the uterine irritation and discharge.

*Pains in the face and head* may also occur. I have already stated to you that toothache, as a sympathetic pain, occurs occasionally in patients in the state of pregnancy. I have not had occasion to trace it distinctly, as a mere reflex and sympathetic pain excited by disease of the uterus. Local and limited pains, as over one or other eyebrow in the forehead, in the occiput, in the temple (*clavus hystericus*), &c., have appeared to me sometimes to be the secondary consequences of uterine irritation. The headaches, however, under which uterine patients so often suffer, are not generally direct secondary sympathetic effects of the uterine affection. The cephalalgia, in these cases, is almost always a kind of indirect result either of the anæmia, or of the deranged digestion and assimilation, which so often come to attend upon chronic uterine affections. For uterine diseases frequently produce other deviations in the functions of the body, than mere painful sensations. They often derange the functions performed

by different organs. Let me state to you what phenomena, as rational or dynamic symptoms of uterine disease, we find most frequently referable to such—

IV. *Derangements of Functions in distant Organs.*—We have already considered the urinary bladder as liable to be irritated and deranged in its functions in uterine disease—sometimes mechanically, but very frequently sympathetically. Let me merely add, on this point, that occasionally the urinary secretion is altered and very various in its character. The irritation of pregnancy is well known to produce changes in the urinary secretion, which have been considered as quite characteristic of pregnancy; sometimes the morbid secretion of albuminous urine occurs; and one or two rare cases have been recorded, in which women have suffered from diabetes when pregnant, and have recovered their usual health completely after delivery. It may yet be found that uterine diseases are also liable occasionally to derange and alter the urinary secretion itself; but the subject, as a source of any rational symptoms of uterine disease, has hitherto attracted no degree of attention. Uterine patients, when questioned on the matter, tell you generally, in relation to it, that the urinary secretion is most variable, and especially that it alters, from time to time, from being very profuse and watery, to being small in quantity and loaded with sediment. This sediment is usually composed of the urates; but I have seen the triple phosphate, oxalates, and other morbid ingredients, in the urine, in uterine cases. I am not acquainted, however, with a sufficient number of facts to be able to state to you whether these occurrences are mere coincidences, or whether, in any case, the derangement in the urinary secretion, and the derangement in the morbid state of the uterus, stand in relation to each other in any respect as cause and effect.

The intestinal canal is an organ more frequently deranged in its functions in uterine disease than, perhaps, any other organ of the body. Usually the functions of it are performed sluggishly and inertly. Constipation is very often present; and the lower portions of the canal especially appear to have lost their healthy tone and power. At the second or third month of pregnancy, the abdomen of the human female is often larger than it is when the uterus is actually still more enlarged at the fourth or fifth month. This early enlargement is the result of the derangement of the functions of the bowels, and more particularly of the accumulation of gases within them. In the same way, a partial tympanitis often accompanies other morbid irritations of the uterus, as well as the irritation of it from pregnancy. Pregnancy is, as you are all aware, not unfrequently accompanied with dyspepsia in the form of gastrodynia, pyrosis, and other morbid symptoms; and nausea and vomiting are very common sympathetic phenomena in the pregnant state. All these symptoms occur also in connection with diseases of the uterus, though more rarely than with pregnancy.

Further, in uterine disease we find another abdominal organ not unfrequently sympathetically affected—I mean the liver. In very many women the biliary secretion becomes disordered at the return of each menstruation,—in some a state of constipation, in others a state of diarrhoea recurring during each menstrual period. The biliary and catamenial secretions seem almost vicarious of each other; and as in other cases in which such physiological relations exist, the two functions are not unfrequently simultaneously deranged in their pathological actions also,—both being occasionally increased or decreased together; or, what oftener happens, one being increased in extent and activity when the other is diminished. In some cases the cure of a uterine disease seems also to rectify the coexistent, and perhaps resultant, hepatic derangement; while no doubt also, in other cases, we find ourselves altogether unable to amend and arrest uterine diseases and discharges, till we have, in the first instance, used appropriate means to modify and correct the attendant hepatic disorder.

The organs within the chest are more rarely affected. Often, indeed, there is a palpitation present, but it is principally in cases where there has been a loss of blood from uterine disease, or a constant and profuse leucorrhœal discharge, weakening and debilitating the patient; or when a deranged state of the digestive functions has led on to the same result. Besides, in prolonged uterine disease, we very often find the mobility of the nervous system greatly increased; and palpitation in all such patients occurs readily under any excitement, and



sometimes forms a sufficiently distressing, and, in their own opinion, an alarming symptom.

At first thought, one would scarcely expect to find the respiratory function ever affected sympathetically in uterine disease. I have, however, seen a sufficient number of cases fully to convince me, that there is, in reality, a true kind of *asthma uterinum*, as mentioned by the older nosologists. I saw, for example, within the last few days, a lady whose history is briefly this:—She never menstruated till she was twenty-eight years of age, but every month, or at the period of the menstrual molimen, there was, instead of menstruation, a distinct attack of asthma, lasting generally for two or three days, and sadly shattering and breaking down her constitution. Her state greatly alarmed her brother, who was himself a medical man. I attempted, during several successive months, to induce menstruation, by applying, at the expected periods, nitrate of silver freely to the interior of the uterus, by the usual instrument adapted to that purpose. Some sanguineous discharge was the result, with marked and evident alleviation of the asthmatic symptoms. At last, I introduced a small galvanic pessary into the interior of the uterine cavity, and left it there for several months. After wearing it for a time, the patient menstruated regularly, the asthma entirely disappeared, her health and strength became restored, and for the first time for many long years, she was able again to join in general society. Menstruation continued regular for some months after the instrument was removed, and the asthma was kept in perfect abeyance; but on the recurrence of cold weather, she again failed to menstruate, and, instead of it, had one of her old attacks of asthma. At her own earnest suggestion and solicitation, I have, in consequence, again replaced the pessary, to which she herself correctly attributes the new life, as she describes it, which she has of late years gained. Perhaps such a result may appear not so paradoxical as at first sight it might look, when we remember that several German physiologists have insisted that menstruation is a kind of vicarious respiration, intended to rid the female system of a cumulative amount of carbon. And we know that Andral and Gavarret have proved experimentally, a few years ago, that in the human female there is a kind of direct relation and interchange between the amount of carbon discharged in expiration, and the amount of menstruation present; more carbon being always exhaled from the lungs when the patient was suffering under amenorrhœa, or when menstruation was arrested by pregnancy, than when she is not pregnant, and when she is menstruating regularly.

The nervous system, as I have just now had occasion to state to you, becomes weakened or mobile and supersensitive in most patients suffering under any protracted, and especially under any weakening form of uterine disease. There is languor, and at the same time excitability of mind, observable to a distressing degree in many such patients. There is not the usual capacity for mental exertion. Not a few are morbidly despondent of themselves and of their state. We see sometimes sad evidence of the effects of uterine irritation upon the mind and nervous system, in the production of puerperal insanity. In all large asylums you will find cases of insanity combined with, if not resulting from, uterine irritation and disease; and in such institutions the paroxysms of mental excitement are very often seen to be regulated by the monthly-recurring irritation in the uterus which exists during the days of menstruation. Occasionally, in cases of uterine disease, there are lesions of the senses, more particularly of the sense of sight, sometimes the vision being impaired, and motes floating before the eyes. The whole muscular system, under such a condition, sometimes becomes debilitated and reduced in tone, the patient being unable to take anything like her usual amount of exercise. You have the same class of patients, in whom the nervous system is thus weakened and exhausted, occasionally complaining of pricking and numbness of the extremities, as if these parts were losing their power of motion and sensation. And local paralyses seem sometimes, though very rarely, to occur from the irritation of uterine disease, in the same way as they are seen to occur from the irritation of pregnancy. The power of standing and walking is sometimes weakened and abrogated from another cause in uterine ailments,—viz., from the uterus being so much enlarged or displaced as to produce compression upon the nerves, &c., in the interior of the pelvis. I have seen several cases

where this power was restored to the lower extremities, by restoring to its position a uterus that was retroverted.

In pregnancy, the cutaneous surface is sometimes affected sympathetically, ephelis, and other eruptions appearing upon it. In uterine disease the skin is often dry and parched, and in an unhealthy state; and the cutaneous surface of the hands and feet is particularly liable to be easily chilled, perhaps from imperfect capillary circulation, or from imperfect innervation. I have under my care at present, in private practice, two cases of amenorrhœa, in both of which the face is thickly covered with *acne rosacea*. In one of these the cutaneous eruption has become more than once greatly diminished when the menstrual discharge was restored, by the application of nitrate of silver and dry cupping of the interior of the uterus,—so much diminished, as to impress my mind with the belief, that the eruption itself was a derangement in some way or other the direct or indirect result of the uterine disorder. Some women have, at each menstrual period, a slight erythematic appearance upon the skin of the face.

Some time ago I showed Dr. Christison an interesting case, in which there was amenorrhœa co-existing with such a profuse degree of chronic salivation and ulceration of the lips and gums, as at first to have impressed me, as it had impressed other practitioners, with the idea, that she was suffering under the effects of mercurial salivation. My inquiries, however, regarding her quite satisfied me that she could not possibly have been taking any mercury. In what relation the amenorrhœa and salivation stood to each other, in this case, as in other cases, I cannot venture to determine. But you all know that in some women salivation is a very common dynamical symptom in pregnancy. The pregnant patient sometimes loses, in this way, large quantities of saliva daily, up to the very period of delivery.

The thyroid gland, in occasional and rare cases, enlarges in pregnancy. I have seen it enlarged also in uterine cases; but in this, as in others of these complications that I have named, we yet certainly want sufficient evidence to determine the actual relation between these functional derangements and the co-existing uterine disease and irritation. We have yet to study and learn, how far they stand related to each other as simple coincidences, or as regular sequences. And a more careful and complete investigation of them by pathologists, would probably add considerably to the amount and value of the rational or dynamic symptoms of uterine disease.

In reference to all these morbid pains and morbid derangements of function, which may thus in different cases accompany and be produced by derangement or disease of the uterus or ovaries, let me make one more general remark, viz., that they are all liable to be more or less increased in character and in intensity at the menstrual period, when the uterus and ovaries become congested during the days of the usual menstrual molimen.

Lastly, among the dynamic symptoms produced by uterine disease, I have yet to state to you that these affections sometimes produce, and are accompanied by,—

v. *States of General Constitutional Derangement.*—The states of general constitutional derangement that may be found attendant upon uterine disease vary with the disease itself.

The inflammatory diseases of the uterus are seldom so acute (except in the puerperal state) as to lead to much secondary fever; but inflammation in the cellular tissue of the pelvis, or Pelvic Cellulitis, frequently leads to much constitutional disturbance; and if the disease is prolonged, and ends, as it often does, in suppuration, then you have very well-marked hectic symptoms usually supervening. I have more than once seen the hectic accompanying a pelvic abscess, mistaken for the hectic fever of phthisis.

Where there is much and continued loss of blood from polypus, or cancer, or other causes, you have the results and general effects of anemia and chlorosis superinduced, with their usual accompaniments of headache, palpitation, nervousness, &c.

But you have often chlorosis supervening, apparently paradoxically, under the very opposite set of circumstances, viz., where there is amenorrhœa, and partial or total suppression of the catamenial discharge. •

In carcinoma of the uterus, the patient, after the disease begins to break up; usually exhibits the sallow, yellow complexion of organic disease; but it is generally mixed up, also, with pallid lips, gums, and other symptoms of anæmia, in consequence of the frequent violence of the accompanying hæmorrhages. In most such instances, and in the advanced stages of ovarian dropsy, the general atrophy and emaciation of the patient become at last extremely striking.

But in a large proportion of uterine ailments, especially in those of the slighter description, little, or indeed no appreciable amount of constitutional disturbance is produced. Let me merely further add, that when the disease is attended with exhaustion, or if the irritation of it has excited and weakened the nervous system, so as to render it super-sensitive and impressible, hysteria in one or other of its multifarious forms is always apt to supervene.

We come, now, to another question,—one I have already slightly alluded to,—viz.,

*What is the Diagnostic Value of these various forms of Dynamic or Rational Symptoms, in the Detection and Discrimination of Uterine Diseases?*

This question is in itself a very important one, and I think we can answer it satisfactorily and decidedly. For I feel assured that no man, who is practically acquainted with the diseases of the uterus, can have any hesitation in declaring, that the dynamic symptoms of which I have spoken, taken either individually or conjointly, are, in the general run of such cases, altogether incompetent and inadequate for the purpose of a perfectly correct and practical diagnosis of the different or specific affections, to which the uterus and uterine appendages are liable. But do not mistake me in what I wish to state to you upon this point.

There are two objects of diagnosis which the medical man is to consider, in relation to every case applying to him for relief,—viz., first, What organ of the body is affected? and secondly, How is that organ affected? In other words, his first duty is, to trace out the seat of the disease, or the organ or organs which are diseased; and his second object is, to determine what special or particular affection of that organ or organs is present in his patient. Now, I do believe that the dynamic symptoms of uterine disease, such as I have described them to you, may enable us in most cases to determine that the uterus is affected. They are, in many cases at least, sufficient to decide us in relation to the first point that I have named; but they are perfectly insufficient, by their own unassisted evidence to enable us to come to a decision in regard to the second point,—viz., What is the special disease of the uterus, or uterine appendages, under which our patient is suffering? They generally afford us proof enough of the probability of the uterus being affected, without proving to us how it is affected. They may enable us to decide that it is the seat of some morbid state, or some morbid action; without enabling us to determine at all exactly what that morbid state, or that morbid action, may be; and, consequently, without enabling us to decide what should be the proper line of treatment requisite for the relief of our patient.

In treating of this important point,—in endeavouring to show that the dynamic symptoms are not sufficient to enable a practitioner to make a differential diagnosis among the different diseases of the uterus,—I have often found it difficult to impress deeply enough upon the mind of the student the fact, that there is no practical guiding relation between the kind or amount of uterine disease that may be present, and the character of the secondary dynamic symptoms to which it gives rise; and hence, that he cannot, in practice, depend for the discrimination of the different diseases of the uterus from each other upon the dynamical or functional symptoms. But I think I can adduce, in evidence, a case, with the peculiarities of which you are all sufficiently familiar to enable you to understand the argument, in relation to this question, that may be derivable from it.

The rapidly dilating and developing condition of the uterus during pregnancy, and the state of irritation produced by the ovum enlarging within it, may be regarded as the same condition in all women. Pregnancy is the same disease (if I may so term it) in all. In all cases the vital changes and actions going on in

the walls and in the cavity of the uterus are identically the same. Yet mark how very different are the dynamic symptoms accompanying this same condition in different patients. Some patients during pregnancy are long unaware of the condition in which they actually are ; they suffer from no kind of complaint,—from no form of distress,—no functional derangement, or dynamic symptom. A second set of patients during pregnancy are afflicted with severe local suffering, from irritation, induced by the enlarged organ, in the bladder and the rectum ; or they have a feeling of prolapsus and bearing down of the uterus, with pains in the loins, &c. You will find another and a third series, not complaining of any local feeling or distress, but suffering under sickness and nausea,—under general derangement of the stomach and intestinal canal,—under headache and nervous affections,—under toothache or salivation, and other derangements of the sensations and secretions of the body. But, again, in another and in a fourth set of cases, we occasionally find all the most frequent dynamic symptoms, local and constitutional, of pregnancy present, and so well marked, as to impress both the patient, and sometimes even the practitioner, with the certainty of the existence of that state ; and yet, after the lapse of a little time, it may be found that the patient is really not pregnant at all ; the symptoms being sympathetic merely of some morbid state of the uterus or ovaries, but not sympathetic of the state of pregnancy, though very exactly similar to the symptoms which most commonly accompany it.

Observe, for a moment, what important evidence these well-known facts afford. They afford us evidence to this extent,—first, that in pregnancy we have the same identical condition of the uterus, not by any means always accompanied by the same identical dynamical symptoms, these symptoms varying greatly in different patients ; and, secondly, they show us that the most usual dynamic symptoms—local, sympathetic, and constitutional—which we see produced by pregnancy, may be present in other conditions of the uterus than in the pregnant condition. But exactly the same two conclusions are true in regard to almost every one of the diseases of the uterus, as well as to its state of pregnancy. In different diseased conditions of the uterus, as in the condition of it in pregnancy, we constantly find the same specific affection of the organ exciting very different phenomena in different women. And, further, we find that apparently phenomena, or dynamic symptoms, which are nearly if not entirely identical, may be excited by two or more diseases of the uterus that are entirely different from each other in their pathology and in their treatment.

I have already alluded to the frequency of fibrous tumours in the walls of the uterus. Let me take them as an example of the remark—though, in fact, uterine pathology is full of similar instances. Fibrous tumours do not, in some patients, produce any very decided dynamic symptoms ; and even when of large size, occasionally they may pass for years altogether undiscovered either by the patient or by the practitioner. Menstruation may be perfectly regular ; and pregnancy even may take place. In other patients, however, these fibrous tumours, even when still small in size, sometimes (as I have already stated to you) produce distressing irritation among the pelvic viscera, and derange in various ways the physiological functions of the organ, leading on to menorrhagia, leucorrhœa, dysmenorrhœa, &c. Here, then, we have a disease identical in character in different patients, but producing in these different patients very different kinds of symptoms. And, if it were necessary, I might repeat the same kind of deduction, as derivable from the consideration of the different symptoms attending all other organic diseases of the uterus in different patients, as chronic inflammation, hypertrophy, polypus, cauliflower excrescences, carcinoma, &c. &c. In many cases carcinoma of the uterus produces, from a very early stage of its progress, distressing dynamic symptoms. But in others it marches onward in its fatal course for a long time, without occasioning almost a single dynamic symptom calculated to excite the attention or rouse the alarm of the patient ; and when marked dynamic symptoms do at last supervene, how commonly are they mistaken for the symptoms of other and milder diseases of the uterus. I have often, on the other hand, seen cases which have been supposed to be cases of incurable carcinoma, when the disease was some more benign and perfectly curable form of uterine malady, such as inflammatory in-

duration of the cervix, or polypus. In most, if not in all such cases, the error committed has consisted in the practitioner supposing he could make out the differential diagnosis of the disease by dynamic symptoms alone, and without calling in to his aid the evidence to be derived from physical diagnosis.

The most malignant organic diseases of the uterus may, as I have just remarked in relation to carcinoma, long remain occult and latent in their character; they may have marched far on to a fatal termination, without a single dynamic symptom being present calculated to warn the patient to any knowledge of her state of danger. But, on the contrary, we have often severe local and constitutional dynamic symptoms of uterine disease developed, and developed early, in instances of slight and remedial organic affections of the organs, as in simple chronic ulceration, and inflammatory eruptions upon the cervix. And again,—mark this other perplexing fact,—in other instances all, or almost all, these dynamic symptoms may be present, in their most aggravated forms, for months, and even for years, in instances of the so-called irritable uterus, or in neuralgia of the organ,—that is to say, in a set of cases where there is actually no organic disease at all, and where there may be much real distress, but not much real danger.

To sum up these remarks in one more general deduction, let me observe, that we sometimes have the same apparent train of local and secondary dynamic symptoms in neuralgic, in inflammatory, and in benign, and malignant organic diseases of the uterus: And, in whatever way we may explain the fact, it is still an undoubted important pathological and practical fact, that in uterine diseases, there is generally no very direct or fixed relation observable between the intensity and character of the local pathological disease which is present, and the intensity and character of the dynamic symptoms to which that disease gives rise. The accompanying dynamic symptoms may be severe, where the local disease of the uterus is slight and simple; and, on the other hand, it too frequently happens that the local disease of the uterus is severe and serious in its nature, when the dynamic symptoms that accompany it are apparently trivial and transient in their character. It is in consequence of this want of relation between uterine diseases and their dynamic symptoms, that it becomes so requisite in this class of affections to have recourse to physical diagnosis, in order to determine what ascertainable changes have taken place in the structure and organization of the uterus or its appendages. It is only by instituting, in this way, a physical diagnosis that you can hope, in most instances, to decide upon the *specific* nature of the uterine disease that may be present. In many cases we may make, as I have repeatedly stated to you, the general diagnosis of the existence of uterine disease, by the consideration alone of the rational symptoms, or functional derangements, to which such disease gives rise. We can only make a *differential* diagnosis of what the existing specific disease is by physical diagnosis; or, in other words, by the physical examination of the anatomical conditions of the organ itself.

The necessity of physical diagnosis will, I believe, be willingly confessed by all practitioners in relation to the diagnosis of one uterine state, that is not a state of disease. I specially allude to the illustration which I have already brought before you, viz: the state of pregnancy. In deciding upon the existence or non-existence of pregnancy in any cases of doubt or importance, no medical man, who valued his professional reputation, would deem himself justified in offering a final and decided opinion upon the subject, by considering the dynamical symptoms alone,—symptoms, which I have already described to you to be sufficiently varying and equivocal in different patients. No medical man would venture to form a definite deduction and judgment upon the matter until he was allowed to make some physical diagnosis of the condition of the uterus,—that is, until he had ascertained, by sight or touch, or both, that the abdomen was really enlarged; until, probably, by a careful external examination of the abdomen by the hand and stethoscope, he had ascertained that the existing tumour was really uterine, and really contained a fœtus; or, in the earlier months, until, perhaps, he was permitted to make a vaginal examination, in order to make out the state of development, size, &c., of the uterus. Exactly in the same way, in deciding upon the pathological nature of any marked uterine disease, and consequently

upon the line of treatment which it may require, we believe precisely the same caution to be necessary, and the same local examination to be requisite, where there exists any doubt, and where such a local examination is not otherwise counter-indicated. And in a practical point of view, the examination in a case of uterine disease is far more necessary, because far more important, than in the case of pregnancy. In pregnancy the local examination is had recourse to, in order to determine a point which time itself would soon alone determine. In uterine diseases the same physical examination is had recourse to, for an object of much more immediate and practical moment, viz., to obtain information sufficient to enable us to form a correct and precise judgment as to the specific and pathological nature of the case before us; and, consequently, to enable us to select the proper remedial measures for its treatment and cure.

Let us proceed, then, next to inquire, —

*What are the Means of Physical Diagnosis, that we may Use in Diseases of the Uterus, Ovaries, &c.?*

Now, in the diagnosis of these diseases, we require to use the sense of touch, and occasionally of sight, hearing, and smell. We require to use the sense of touch in the external and internal examination of the region of the uterus and of the surrounding parts. We require to use the sense of hearing in the employment of auscultation or percussion. We require to use sight in the use of the speculum. And the nature of the fœtor emitted by the vaginal discharge is sometimes almost enough in itself to decide for or against the existence of extensive carcinomatous ulceration and disintegration.

The os uteri is, as you are aware, an opening so narrow as not to allow of the passage of the finger through it for the examination of the interior of the cavity or walls of the viscus. But it is most important, in some cases, to be able to make an examination of this cavity and of these walls, for the purpose of ascertaining various points with regard to their condition; and in order to do so, we may pass through the os a slender metallic finger, or, in other words, use the uterine sound. Or, if necessary, we may enlarge the size of the opening of the os, so as even to admit the finger itself, by introducing a series of dilating spongetents into the cavity of the os and cervix uteri. Occasionally matters are discharged from the cavity of the uterus, of which it is necessary to ascertain the character and source; and, in some instances, we are aided in coming to a decision upon this matter by the use of the microscope and by chemical tests. Sometimes there are fluid collections in the cellular tissue of the pelvis, or in the ovary; and it may become a matter of life or death to the patient that we should be able to trace what the character of these effusions really is, and, in particular, whether they are inflammatory and purulent or not. We cannot reach them with the finger, but we may reach them with the exploring needle, and in this way trace their true character. Lastly, in cases of neuralgic tenderness of the abdomen and passages, and more especially when these are combined, as they often are, with tympanitic distension and enlargement of the abdomen, giving an appearance of formidable enlargement and very serious disease, it is sometimes impossible to make an accurate examination of the abdominal and pelvic viscera till the patient is fully anæsthetised; and you have seen in the ward more than one case where the employment of chloroform has, in this way, at once dispelled what previously seemed to be an undoubted and enormous ovarian or uterine tumour.

We have thus, you will observe, a variety of means of physical diagnosis that we may resort to in the detection and discrimination of the diseases of the uterus, and ovaries, and neighbouring parts; and, if we attempt to classify them, we may reduce them to the following order:—

1st. The external or abdominal examination of the patient by touch, auscultation, and percussion.

2dly. The tactile examination of the uterus, ovaries, &c., by the vagina or by the rectum.

3dly. That most important mode of diagnosis,—viz., the simultaneous combination of the external and internal modes of tactile examination.

4thly. The use of the speculum.

5thly. The use of the uterine sound.

6thly. The use of sponge-tents, with a view of dilating the os uteri, so that the finger can be introduced into the cavity of the cervix or cavity of the body of the organ.

7thly. The microscopic or chemical examination of the discharges from the uterus and vagina.

8thly. The employment of the exploring needle in cases of fluid collections, in order to ascertain the contents of such collections; and—

9thly. The adoption of anæsthetic agents, to relax the abdominal parietes, and enable us to practise the different modes of examination, in cases of excessive or neuralgic tenderness of the abdominal surface or vagina, &c.

In my next lecture I will attempt to describe how these different means of physical diagnosis are to be employed; in what cases they ought to be adopted, and what special advantages and diagnostic indications can be obtained from the use of them individually and conjointly.

ART. 80.—*Intra-uterine Polypus of large size successfully removed.*

By W. F. MONTGOMERY, M.D.

(*Dublin Quarterly Journal of Medical Science*, Feb. 1851.)

On the 27th of March, 1850, the author was urgently requested to visit a lady at Blackrock, who was said to be suffering such intense pain that her friends thought she could not survive if relief were not speedily obtained. On his arrival there he found her to be aged about 40, unmarried, and in violent agony, almost frantic with her sufferings, which recurred periodically, and resembled labour pain; she was quite blanched, and partially œdematous; and had been ill, her friends said, from time to time, for between four and five years, during which she had occasional pain, and leucorrhœal and sanguineous discharges from the uterus to a large amount.

On examination, which she consented to with great reluctance, he found the pains were produced by regular and strong contractile efforts of the uterus, the mouth of which was open to the size of a shilling, with very firm margins, and becoming very tense during each pain. Immediately within it he could distinctly feel a round tumour, which was pressed strongly into the circle of the os by every pain; in fact, there was within the cavity of the uterus a polypus of considerable size which the organ was endeavouring to expel, by efforts like those of ordinary labour. There was a tumour in the abdomen inclining towards the right side, and reaching nearly as high as the umbilicus.

She was suffering so severely, and was so exhausted by the pain, that the author thought it necessary to give her a cordial and an opiate, from which she derived immediate relief; the uterine efforts ceased, the polypus receded, and the os uteri gradually closed after a few days. She was then given tonics, under which her health improved surprisingly, and no further change of importance occurred until May 27th, when, after taking a walk, severe pain again came on, with hæmorrhage, and lasted three days, in consequence of which he saw her again on May 30th, when he found the os uteri, which had been very rigid and unyielding two months before, much more open, thinner, and so relaxed as to allow him to pass his finger freely into the uterus and round the tumour, which appeared to have a broad and very firm attachment.

June 15th. She is looking wonderfully better, but had a sharp attack of pain and hæmorrhage on the 10th, which lasted several hours.

Under such circumstances, with frequently repeated and severe paroxysms of pain, and with large discharges of an exhausting character, the author reflected often and anxiously on what he ought to do. He felt it was highly desirable that the tumour should be, *if practicable*, removed with the least possible delay, lest the patient should sink under the exhaustion produced by severe pain and hæmorrhage. But how was its removal to be accomplished? There were, first, a very contracted vagina; second, an os uteri only partially open; third, a large tumour within it, with (fourth) a very broad and firm attachment.

Then, by what means might the descent of the tumour be promoted or effected?

1st. Ergot of rye might be given to aid the expulsive efforts of the uterus.

2d. The polypus might be drawn down by force with hook forceps.

3d. An attempt might be made to crush the substance of the tumour by a strong forceps.

4th. There was the alternative of leaving it to time.

The author greatly doubted that the action of ergot, or the attempt to pull the polypus down, would succeed; and if either did, he thought it almost certain that, from the extent and firmness of the attachment, its descent, so produced, would almost inevitably have brought down with it the fundus uteri; and thus inversion of the organ be superadded to the already existing formidable disease.

The attempt to crush and break up the substance of the tumour, he regarded as equally objectionable; for, first, it would have been very difficult to make, on account of the narrow vagina and only partially opened os; secondly, the firmness of the tumour was such as would render the attempt to break it down very likely to fail; and, thirdly, in doing so, he thought it highly probable that large vessels would be opened, and a dangerous hæmorrhage produced.

He therefore rejected all these plans (which, under suitable circumstances, have been adopted with success,) and considering that, as yet, the patient's health was not deteriorating, but improving, and her patience and fortitude unimpaired, he decided on adopting the policy of Fabius, "*vincere cunctando*."

In July she left town for three weeks; on the 15th of that month she had a very severe attack of pain of an expulsive kind, with great flooding; and when he examined her on the 24th, the large end of the polypus had fairly cleared the os uteri, and he advised her coming to town to have the operation for its removal performed.

The author next saw her on August 2d, and on the 9th he passed a ligature round the neck of the polypus, fully three inches within the os uteri, by means of Niessen's double canula, and more than six inches of ligature were taken up in encircling the attachments of the tumour.

On the 11th symptoms of putrefaction were perceptible, and continued to increase. On the 14th the ligature appeared to be drawn home, and on twisting the canula it broke; but the polypus would not come away, though the amount of attachment remaining undivided could not have been more than a quarter of an inch in thickness.

The discharge now became horribly offensive, the pulse very quick, and the stomach irritable, so that the author began to be very anxious about the result, and to fear that it would be unfortunate; yet the patient never lost courage, but maintained the most complete composure and unshaken fortitude throughout; took food freely, and slept well, never for one moment doubting, as she afterwards assured him, that she would ultimately recover. And thus passed over the 15th, 16th, and 17th. Each day the author tried to draw the polypus down, but it seemed to be firmly grasped by the uterus, and was quite immovable, so that no force of traction that he could safely exert was sufficient to bring it away until the 18th—that is, the ninth day from the application of the ligature, when he succeeded in extracting it; from which moment the lady never had an unpleasant symptom.

The tumour when it came away was greatly decomposed, softened, and consequently reduced in size, portions of it having also been torn and cut away in the attempts to get it down; but still it was of considerable bulk, measuring about five inches in length and three in breadth.

As soon as the polypus was removed, the tumour in the abdomen became suddenly greatly reduced in size, and in a few days was no longer to be felt.

The lady's recovery was rapid and uninterrupted; she was in the drawing-room in four days, and left town on the 28th, ten days after the extraction of the polypus; and since her return to the country, she has remained in perfect health.



ART. 81.—*Absence of the Vagina—Imperforate Uterus—Operation—Impregnation—Delivery.* By M. DEBROU.

(*Gazette Médicale and Medical Times*, March 8, 1851.)

A young female, 19 years of age, had enjoyed good health up to the age of 17, when she experienced the first symptoms of menstruation. No discharge, however, appeared, and she continued to suffer severely at each monthly period, up to the age of 19. The pains now became intolerable, and a tumour was developed in the abdomen. On examining this latter, it was evident that the tumour arose from the distension of the uterus, while another tumour, of the size of an egg and round, occupied the right side of the abdomen. This was probably the ovary. The external organs of generation were well formed, but the vagina was completely wanting, a firm substance, about three to four lines in thickness, separating the rectum from the bladder.

An operation was decided on, and performed on the 22d of February, 1847. The operator divided with a bistoury the firm substance supplying the place of the vagina. By cautious incisions he arrived at a depth of a couple of inches, when a solid body was felt at the bottom of the wound. The nail and the end of a grooved canula were now employed to lacerate the tissues with care, and the resisting body was at length exposed at about two and a half inches from the external orifice. It was impossible, however, either with the finger or probe, to find any trace of an os uteri; the operator merely conceived that he felt some slighter resistance at a certain point of the body, which he took for the neck of the uterus. It was resolved to perforate the body at this point. A narrow bistoury, partly enveloped in lint, was passed along the finger, and an incision made with it, as with a trocar. A small quantity of blood appeared. A female catheter was next passed into the opening, but only a small quantity of blood issued. The incision was therefore enlarged transversely with a blunt-pointed bistoury, and an opening of five to six lines obtained, through which a great quantity of dark half-coagulated blood was discharged. The point of the index-finger now easily passed through the artificial opening into the cavity of the uterus, the walls of which were found to be extremely thin. Great relief ensued on the discharge of the blood, and the uterus was further cleaned out by three emollient injections. A long pledget of lint was now passed into the artificial os uteri, and the vagina well plugged to prevent reunion. Considerable reaction, with some symptoms of peritonitis, set in, but was subdued by bloodletting.

On the third day after the operation, an elastic catheter, No. 8, was substituted for the pledget of lint, and allowed to remain permanently in the uterus; its use was continued for thirty-five days. On the 26th of April, notwithstanding the constant use of plugs, it became necessary to divide a circular bridle, which had been formed at about the depth of an inch in the vagina, and threatened to produce a new obstruction. Finally, on the 3d of May, the menstrual flux appeared for the first time, and continued for three days in a natural manner.

From this period up to the commencement of June, the vagina was carefully plugged every day either with lint or prepared sponge; but the orifice of the uterus became again closed, for the menses were suppressed after the month of June, and did not reappear. The original accidents now recurred, and a second operation became necessary in March, 1848. A fresh incision was therefore made in the direction of the os uteri, and enlarged with a probe-pointed bistoury. Only a small quantity of blood issued. There was no fever, and the patient was able to leave her bed on the fourth day. Emollient injections were frequently thrown into the cavity of the uterus, and a rectum bougie placed in the artificial os. On the 20th of May, the catamenia appeared, and thenceforward continued natural. The object of the operation was thus fully attained.

Nine months afterwards, in December, 1848, the patient consulted Dr. Debrou on the question of marriage. He gave an evasive opinion, and advised her to wait; but she was married in February, 1849, and became pregnant immediately afterwards.

On the 2d of November, 1849, at 5 A. M., the first symptoms of labour set in. After the lapse of a few hours the uterine orifice was dilated to about the size of

a shilling. Being firm and resisting, M. Debrou thought it prudent to make a few lateral incisions with a bistoury. Little progress, however, was made, and two more incisions were practised. The patient who had been debilitated by a previous attack of cholera, now complained of weakness, and at 6, P. M. was seized with convulsions, which recurred in a quarter of an hour. The forceps was immediately employed, and the child extracted in a few minutes, without any other accident than a slight laceration of the perinæum.

On the 4th of November, some symptoms of peritonitis appeared; they were relieved for a couple of days, but recurred with violence, and the woman died on the tenth day after delivery.

The above remarkable case illustrates two points, upon which the best authorities have been accustomed to speak in a very decided manner. Dupuytren, Boyer, Capuron, and others, always insisted on the impropriety of operating in cases of imperforate vagina, where the os uteri was at the same time imperforate. Dupuytren, in particular, affirms, "that the metritis which invariably ensues on the evacuation of the uterus, is rapidly and certainly fatal." But the present case, that of M. Amussat, and two other cases which occurred in Belgium, in the year 1835, show that the illustrious professor of the Hotel-Dieu here advances an opinion opposed to facts. The second point relates to the propriety of permitting a woman to become a wife after an operation such as has been described above. The great majority of practitioners have decided in the negative; but rather on theoretical grounds than from the result of experience. M. Debrou's case, it is true, proved fatal; yet nothing in the history of the delivery proves that it was necessarily so. The artificial os uteri dilated slowly, and this circumstance probably favoured the attack of convulsions; but, on the other hand, the woman was delivered within thirteen hours, and the fatal termination does not seem to bear any necessary connexion to the previous operation.

ART. 82.—*Remarks on Atresia Vaginæ and similar Malformations.*

By GEORGE MURRAY HUMPHRY, Esq.

(*Provincial Medical and Surgical Journal*, Dec. 11, 1850.)

[The following remarks were elicited by the narrative of a case by Mr. Reid, in which labour was impeded by adhesion of the labia, from the upper commissure to the orifice of the vagina. The woman was not conscious of any existing malformation, as the various functions connected with the parts were discharged with regularity.]

Mr. Humphry observes—"We may safely coincide with Mr. Reid in his opinion respecting the nature of the cohesion between the labia in the above-related cases, and in others of the like kind. His arguments, added to the description given of the nature of the cohesion, and the analogy afforded by the occlusion of other orifices, are, I think, quite sufficient: to establish the fact of its being a congenital malformation; indeed it can scarcely be otherwise. But a doubt may arise as to the mode in which such a malformation is likely to be produced. On this point two views may be entertained. The deformity may be supposed to result, either from an excess of development, whereby a superfluous structure is produced, or from the imperfect removal of some fetal tissue, in consequence of which a structure, intended only to be temporary, has become persistent. These two causes, seemingly different, are in truth nearly allied, so that it is not easy to make a nice distinction between them; probably they both combine, in a greater or less degree, to produce the variety in question. The observations I have to make are chiefly in reference to the latter of these two causes, because I think that it does not receive quite sufficient attention as a source of malformation.

In the formation of the fœtus, and in the evolution of its several organs and tissues, it is evident that there must be two processes in continual operation; by one of these the embryonic or temporary structures are gradually transformed into the new and permanent tissues; by the other they are removed from parts where the permanent tissues are not intended to exist. The effective continuance of both these processes is essential to the formation of the proper shape

and structure of the body, and of each individual part of it. If the former fail there will be an imperfection of structure combined, probably, with an imperfection of shape; if the latter fail there will be a malformation, a superabundance of structure, a junction of parts which should be separate, a closure of canals which should be open.

It is probable that these two processes, by which the several layers and structures of the embryo acquire their distinctive characters and become separate from one another, are contemporaneous, or nearly so. One of the earliest changes observed in the germinal membrane, or the membrane in immediate contact with the yolk, is its separation into two layers,—the “serous” and the “mucous.” From the former or outermost of these, the external or animal parts, and from the mucous or innermost, the internal or organic parts of the fœtus are evolved. As the structure of these two layers becomes more distinct, so does their separation become more complete, till they are disunited in nearly their whole extent, and a cavity is formed between them, possessing an epithelial lining. This cavity is divided by the diaphragm into its pleural and peritoneal compartments. The mucous and serous layers of the germinal membrane remain united in the middle line, where a third or vascular layer is formed between them, in which the heart and great vessels are evolved; the large arterial and venous trunks, the representatives of this middle layer of the germinal membrane, remaining through life the great bond of union between the organic and the animal divisions of the body, which are formed respectively from the mucous and serous layers above mentioned. It is evident, therefore, that the visceral and parietal layers of the peritoneum and pleura were originally united in the germinal membrane, their separation taking place, probably, at the same time with the evolution of their structure.

In the further progress of development, the outer or serous layer of the germinal membrane, which grows more rapidly than the inner or mucous, becomes bent inwards upon the yolk, whereby the embryo assumes a boat-like shape, is raised upon the surface of the yolk, and is “pinched off” from it. The sides of this outer layer, which form the walls of the thorax and abdomen, tend to the middle line in front, and meet there, cutting off the inner part of the embryo from the yolk, except at the navel, where a tubular process—the omphalo-mesenteric duct, with its vessels—still forms the medium of communication between the intestinal canal and the yolk sac. The latter subsequently dwindles away, the omphalo-mesenteric duct and the vessels at the same time disappearing. The inflexion of the outer layer of the germinal membrane takes place at the upper or cranial, and at the lower or caudal, extremity of the embryo, as well as at the sides, forming a thick rounded end in either direction. The embryo may now be said to consist of an oval sac, formed by the serous layer of the germinal membrane enclosing an inner smaller sac, formed by the mucous layer. The mucous sac has no external communication, except with the yolk, or umbilical vesicle, as this part of the yolk is now called, through the omphalo-mesenteric duct, which is soon obliterated; it is entirely closed in and covered by the external and larger sac. It forms the intestine, and from it the other alimentary organs, as well as the respiratory and urinary apparatus, are developed as diverticula. At first it is a good deal shorter than the external sac, but it gradually elongates, and fissures are soon formed through the wall of the external sac into its cavity, so as to lay it open at the two ends of the embryo. The anterior orifice commences on the surface of the embryo, as a depression, which, extending inwards, meets the superior blind extremity of the mucous or intestinal sac, and communicating with it, forms the oral aperture (not strictly the mouth) for the alimentary and respiratory organs. In like manner, a depression at the lower end of the embryo meets and communicates with the inferior blind extremity of the mucous sac, constituting the cloaca or common opening of the alimentary, urinary, and genital apparatus. Both these openings must be formed by a removal of the substance intervening between the interior of the mucous sac and the surface of the embryo.

A still more remarkable process takes place in connexion with these openings, between the second and third months. The oral orifice consists at present only of a great hiatus between the upper branchial arches. The mouth is not yet

formed. First, the upper and lower jaws are developed from the superior branchial arch; then the lips are produced from the margins of the jaws, above and below, and approaching one another, coalesce so as to form a plain surface of rudimentary structure quite closing the mouth. Subsequently this rudimentary structure becomes developed into the several tissues that compose the lips, except in the line corresponding with the future opening of the mouth; in this latter situation absorption takes place instead of further development, the rudimentary structure is removed, and the true orifice is formed.\* Supposing this process of absorption to fail, the rudimentary structure would become persistent and the lips would remain coherent, giving rise to the deformity which has been described under the name *atresia oris*. The eyelids, in like manner, growing from the margins of the orbit, cover the eyeball, and meeting over it are united together, becoming separated by the absorption of the fetal tissue at the line of union when the several structures peculiar to the lids are developed in it above and below.† In puppies and kittens this separation does not take place till some days after birth; and instances are recorded of the uniting medium remaining persistent in man. The condition so engendered is called *ankyloblepharon*.‡ The nostrils also are, after the ninth week, closed, as with a plug, by a membrane of the same nature as that closing the mouth and eyelids.§ When this membrane is not removed, the condition called *atresia narium* results.

Forasmuch as the early mode of formation of the cloaca at the lower extremity of the fetus is similar to that of the primitive oral aperture, it seems a reasonable inference that, in the further process of development, when the perinæum is formed, the vagina is, like the mouth, nose, and eyes, closed by a rudimentary structure, and that, as the labia acquire their proper structure, so the rudimentary tissue which had united them is removed, and the opening is established. Some such process is hinted at by Bischoff; but I have been unable to find any clear account of it in the descriptions of the development of these parts, given by Valentine, Wagner, Baer, or other writers upon the subject. The persistence of this rudimentary structure, constituting *atresia vaginae*, would accord exactly with the condition we so often see in young children, and with that occasionally observed in the adult,—for instance, in Mr. Reid's case. As a general rule, it would appear that the removal of this structure takes place from above downwards, for in little children who are the subjects of cohesion of the labia there is generally an orifice at the upper part near to the opening of the urethra, and a probe may be passed through this orifice into the vagina behind the uniting medium, which, in every case that I have seen, has been thin and soft, so that slight pressure with the probe was sufficient to divide it and bring the parts to their natural state. Neither have I ever known more than a few drops of blood to be lost or any tendency to the reunion of the labia after this slight and simple operation. In Mr. Reid's case it appears that the opening took place through the lower part of the membrane, the labia remaining united above; and in the case quoted by him from Merriman, the opening was in the middle, the labia coherent above and below.

It would seem that at a certain period of intra-uterine life the immediate orifice of the vagina proper is also closed by a second membrane uniting the crura of the clitoris. The persistent remains of the margin of this membrane probably constitutes the "hymen;" occasionally the entire membrane is persistent, causing occlusion of the vagina and retension of the menses. The imperforate condition of the vagina described by Mr. Mayo, and the imperforate anus would appear to depend upon the imperfect formation of the cloaca, the depression or fissure produced on the external surface of the embryo not coalescing with the internal mucous or intestinal pouch, rather than upon the persistence of a rudimentary structure subsequently developed.

\* Bischoff, 'Entwicklungsgeschichte.' Leipzig, 1842, p. 300.

† Bischoff, l. c. p. 227. Wagner, 'Elements of Physiology,' by Willis, p. 176.

‡ Baer, 'Lehre von den Augenkrankheiten,' vol. ii., p. 123.

§ Bischoff, l. c., p. 234.

ART. 83.—*Uterine Hæmorrhage thirteen days after delivery.*

By Dr. FERGUSSON.

*(New York Journal of Medicine, Sept. 1850.)*

The patient was twenty-four years of age, and had never borne children. Her labour was comparatively an easy one of fifteen hours' duration, and no unusual symptoms presented themselves during her convalescence till the day above mentioned. For three or four days previous she had left her bed during a good portion of the day, and as the presence of the binder was unpleasant to her, she had removed it without the author's direction or knowledge. On the morning of the thirteenth day he was suddenly called to see her, and found her very much prostrated from loss of blood. He learned from her that during three hours blood had been escaping from the vagina, but she had avoided communicating the fact to any one, in the hope that the hæmorrhage would cease spontaneously. The exact quantity of blood could not be accurately ascertained. All the clothing in the immediate neighbourhood of the nates were saturated with blood, and large clots were lying below the vulva, from which he judged that the quantity lost was not far from two pints and a half. The discharge had continued to increase since its commencement, and when Dr. Fergusson saw her it was still escaping quite rapidly. Her countenance was pale and anxious, and her pulse at the wrist exceedingly weak and frequent, it being 110 per minute. Upon examination, over the hypogastric region, the uterus was distinctly felt considerably larger and softer than is usual at this period, a circumstance which the author attributed partially to the early removal of the binder, and partially to the probable existence of an internal hæmorrhage previous to the discharge of blood from the vagina. Upon introducing a finger into the vagina, he found a clot lying in its cavity, and the os uteri sufficiently dilated to admit its extremity for a short distance. Dr. Fergusson immediately ordered a cold douche, followed by the application of a bladder of ice, over the lower part of the abdomen; administered ʒi of the saturated tinct. of ergot, and enjoined absolute quiet in the recumbent position, and cold drinks. The effect of these agents was to produce a moderate contraction of the uterus, though the discharge of blood was not very materially diminished. He then made a re-application of the binder, with a thick compress over the region of the uterus, as firmly as could be borne by the patient, and ordered the administration every second hour of the following pill:—

R Pulv. secal. cornut., gr. iij;  
 Plumbi acetatis, gr. ij;  
 Pulv. opii, gr. ʒ;  
 Muc. gum. acac. q. s. Fiat pilula.

Under this treatment she gradually improved; but as the hæmorrhage still continued, though in smaller quantities, on the morning of the second day, the author asked Dr. Thos. F. Cock, one of the attending physicians of the asylum, to see the case with him, who recommended a continuation of the treatment which had been adopted. In the evening, the bowels having been constipated for three days, and being unwilling to administer a cathartic in her present condition, Dr. Fergusson ordered an injection of cold water into the rectum, in order to effect the double object of an evacuation of the contents of the bowels, and, probably, aiding the uterus in its contraction. From that time, the intervals between the administration of the pills being gradually lengthened, the discharge steadily diminished, and on the evening of the third day entirely ceased. Nourishing diet was allowed the patient, her convalescence was speedy, and without an untoward symptom, and she was discharged from the asylum in good health.

The occurrence of hæmorrhage from the uterus several days after delivery is so unusual, and so little has been written concerning it, that the author has considered this case worthy of particular description. Dr. Fergusson has examined several statistical tables with reference to this subject, and he has not been able to find any case in which hæmorrhage occurred at so late a period. Among

16,654 cases of delivery in Dublin Lying-in Hospital, reported by Dr. Collins, there were but 43 cases in which uterine hæmorrhage occurred subsequent to the expulsion of the placenta. In 40, the discharge took place within twelve hours; in 1, on the fourth day; in 1, on the fifth; and in another, on the tenth day. Drs. M'Clintock and Hardy report 6634 cases of delivery in the same hospital. 25 cases of secondary hæmorrhage were recorded, 1 of which occurred on the seventh day. There was also reported from this asylum, by Dr. Stimson, in N. Y. *Annalist*, of October 1st, 1847, the case of a patient in whom hæmorrhage took place on the tenth day subsequent to parturition.

Various causes have been assigned for the occurrence of this accident; but in this instance the author thinks the hæmorrhage is fairly attributable to the early removal of the binder, accompanied by premature exertion on the part of the patient, causing great excitement of the circulation.

**ART. 84.—Case of Sudden Death after Delivery—Air found in the Heart.**  
By Mr. BERRY.

(*Prov. Med. and Surg. Journal*, Nov. 27, 1850.)

E. G.—, æt. 22, pregnant with her first child, was taken in labour on the evening of June 16, 1850. The pains at first were slight, and continued so during the night. In the morning of the 17th she became worse, and at two o'clock p.m. the pains were so strong as to induce her to send for her medical attendant, Mr. Dyer, who remained with her till seven o'clock in the evening, when she was delivered of a male child. In twenty minutes after the birth of the child, the placenta was naturally expelled, with but little loss of blood. At half-past eight o'clock she was very comfortable, and at ten o'clock was carefully put to bed. At eleven o'clock she took some gruel, and expressed herself "as feeling as comfortable as she could expect." Her husband then lay by her side. About one o'clock in the morning of the 18th, he became alarmed by her difficult breathing and feeling of faintness. He immediately sent for Mr. Dyer, but before he arrived, at two o'clock, she was dead. She lived seven hours after her delivery. The cause of death could not be accounted for, as there was no hæmorrhage, and apparently nothing in the condition of the patient to prognosticate such a termination. A post-mortem examination was allowed, and was made early in the morning of the 20th. The body was well formed and nourished. A thick layer of fat existed in the abdominal coverings. Upon opening the abdominal cavity, the uterus was seen midway between the pelvis and umbilicus; the peritoneum covering it and the intestines was healthy, but pale. The stomach contained a small quantity of fluid. Liver healthy. The kidneys presented a granulated appearance; and the urine which remained in the bladder was ascertained to be, by the application of heat, slightly albuminous. Upon cutting into the uterus, it was found empty, and the vessels where the placenta had been attached patulous. The vagina contained, at its superior part, a moderately-sized clot of blood. Within the chest both lungs were congested, and contained scattered tubercles in their upper lobes. The heart was the size of a male heart, and apparently distended. Upon making an incision into it, a gush of air escaped, and the organ became flaccid; no blood was found in its cavities. About one ounce of serum was observed in the pericardium. The brain was healthy in every respect. No signs of decomposition existed in any part of the body.

Olivier, in the article "Air," in the "*Dictionnaire de Médecine*," p. 73, when referring to Legallois' experiments on the inferior animals, in which he had found sudden death occur from air penetrating into the vena cava inferior and heart, by the uterine veins, in female pregnant animals, asks the following question:—"Is it to a cause of this kind that we ought to attribute the sudden and unexpected death in females lately delivered, and where the autopsy disclosed nothing which could account for such a catastrophe?" Does the case above detailed answer the interrogation of Olivier? The labour was natural, and concluded within the ordinary period; the placenta was expelled with but little loss

of blood; everything went on well for some hours, when suddenly the respiration became obstructed, and death followed in a very short period. Upon examination, nothing could account for these symptoms but the congested state of the lungs, and the air found in the heart. The mode in which the air effected its entrance appears to me to be as follows:—The uterus, after the removal of the placenta, contained a clot of blood; with the contraction of the uterus the clot was forced into the vagina; when the uterus relaxed, air was drawn into its cavity; the clot in the vagina prevented the air from passing out of the uterus easily; and the mouth of the uterine veins being patulous, it was forced into them, and then passed into the general venous circulation. The entrance of the air was, in all probability, gradual, and therefore occupied some time before it reached the heart in sufficient quantity to give rise to those symptoms of obstructed respiration which soon terminated in death. Dr. Simpson, in a communication to the late Dr. Reid on this subject, has expressed himself as follows:—“As to the mechanism of the introduction of air in such cases, supposing that to be the cause, I think we can understand it when we remember that the interior of the uterus after delivery, especially opposite the seat of the placenta, is studded with venous orifices, and that if the air is not at once introduced into the uterine cavity, from relaxation of the water of the organs, it will be liable to be forced into these orifices, and hence into the general venous circulation, provided the uterus, in again contracting, is unable to expel its contents through the os uteri.”

ART. 85.—*Styptic powers of Matico in Uterine Hemorrhage.*

Mr. GIRAUD relates the following case, in which the local application of matico proved successful in restraining severe uterine hæmorrhage. The patient was a woman aged 37, the mother of ten children. Since the birth of her last child, sixteen months since, she has been subject to uterine hæmorrhage at uncertain intervals.

On examination, the os uteri was found to be irregular, having an ulcerated surface, with hard edges, occupying one-third of its circumference. In spite of the recumbent posture, and the injection of a strong solution of nitrate of silver three times a day, several napkins continued to be soaked with blood during the night and day for ten or fourteen days, and the patient began to evince the usual symptoms of chronic hæmorrhage. A paste of matico leaves was then made, mixed with a little mucilage of acacia, and having rolled it into balls of a convenient size, three or four of them were introduced into the vagina, and kept in contact with the os uteri by a firm plug of lint, completely filling up the vagina. No pain or inconvenience from this application was experienced, and the bleeding ceased entirely, and it was not renewed after the plug and matico came away at the end of ten days. Although the os uteri continued much in the same state, and there was too much reason to fear that malignant disease existed, the author states that the effect of the application of matico in this case increases his confidence in its styptic power, and has made him determine on using it, in this same form of paste, in the troublesome hæmorrhage which occurs from carcinomatous and other unmanageable ulcerative surfaces.

*Prov. Med. and Surg. Journal, April 2, 1851.*

ART. 86.—*Case of Pelvic Tumour obstructing Labour.—Cæsarean operation proposed.*

By ROBERT SHEKELTON, M.D.

(*Dublin Quarterly Journal, Nov. 1850.*)

The subject of this case was a female admitted into the Dublin Lying-in Hospital, 20th July, 1849, at 4 p.m. No presentation could be discovered, owing to a firm substance which filled the pelvis. She had been delivered five times in the hospital; her first child was born dead, the second was delivered by the crotchet, the third was acephalous, the fourth and fifth were extracted by the

crotchet. She was about 30, strong and healthy, and had been in labour since 11 p.m. the previous evening.

On examination, at 9 a.m., a large unyielding tumour was found to occupy the pelvis, with the exception of a space immediately behind the pubes, which barely admitted the passage of the finger. No presentation could be discovered. Above the pubes the uterus appeared to lie obliquely, the fundus to the left; the child's head could be felt in the right iliac fossa; the foetal heart was audible below the umbilicus.

These circumstances, together with the history of the former labours, the strength and vigour of the child, the short time she had been in labour offering presumptive evidence that the Cæsarean section might be performed legitimately and with fair chances of success, the author summoned Drs. Collins, Evory Kennedy, and Sir P. Crampton in consultation. At 3 p.m. it was found that the pains had become frequent; the pulse had risen to 100. On examination, the os uteri was found dilated, and a small segment of the head could be reached, sufficient for the use of the perforator, and the majority of the consultants favouring the operation of perforation, the author introduced the instrument, and shortly evacuated a large portion of the cranial contents. After this, the consultation was adjourned to 7 p.m., when Drs. Johnson, M'Clintock, Hardy, &c., were associated.

On examination at this time, it was found that the left arm had fallen into the narrow space in the vagina, and could not be returned; no alternative was therefore left, and, by means of the crotchet, it was torn off at the scapula. By degrees, the whole of the thoracic viscera, ribs, and contents of the abdomen were taken away, and the spine was, though unintentionally, separated in the middle. With great exertion, the lower extremities and pelvis were next extracted, and with them the other arm, attached by lacerated integuments and muscles.

The most difficult part of the operation now remained,—that of extracting the head; but fortunately, a hold was obtained upon the lower end of the divided spine, and the crotchet was then firmly fixed at the back of the ear externally, and the head removed after much difficulty. Thus ended the mechanical part of this painful proceeding, which occupied three hours. The author speaks feelingly of the great apprehension of injuring the mother, either with the instruments or the jagged extremities of the bones. Till within about twenty minutes of the final step of the operation, the pains appeared energetic,—but now a great change ensued: vomiting set in; the pulse became weak and rapid; and in spite of stimulants, the poor patient expired ten minutes after the completion of the extraction.

*Autopsy.*—The uterus was lying at the right side of the abdomen with its fundus lying a little above the umbilicus. The appendages were healthy. On lifting up the fundus, blood and foetal brains were seen, which had passed into the peritoneum through an extensive laceration, about five inches in length, running obliquely from the right downwards, through the cervix and upper part of the vagina. The cause of obstruction, proved to be a large, firm, pyriform tumour, which nearly filled up the true pelvis. Its attachment was near the point of the coccyx. It was immovable, and had extended into the sacral canal by absorption of the anterior surface of that bone. The rectum was completely displaced. The tumour itself was fibrous and solid throughout, except at its fundus, where there was a small cyst.

[The author's chief object in relating the above case is in reference to the propriety of the Cæsarean section under similar circumstances. In the present instance, no doubt could exist that it was by far the preferable proceeding; but, as the author remarks, the great fatality which has hitherto attended the Cæsarean section, renders the accoucheur averse to take it into consideration, even in cases like the present, which appear to call for it. In his remarks on this subject, the author refers to Dr. Radford's paper, of which we have made an abstract, vol. x. p. 208.]



**ART. 87.—On the employment of Tartar Emetic to relieve Rigidity of the Cervix and Os Uteri, in cases of Parturition.** By Dr. A. HALL.

(*British American Medical and Physical Journal*, Dec. 1850.)

Dr. A. Hall, of Montreal, strongly recommends the employment of tartar emetic, to relieve rigidity of the cervix and os uteri, in parturition, and in *much larger doses* than has been advocated by writers on midwifery. Dr. Hall prescribes it in grain doses, every half hour. He has not found it necessary to exhibit the medicine in such doses more than thrice, relaxation most commonly following the exhibition of the first grain. Several cases are reported, strikingly illustrative of the value of the practice. Dr. Hall, however, admits that "cases may be met with, in which its exhibition would be decidedly improper. These exceptions to the rule will be found to occur in women of delicate habit and leucophlegmatic temperament. They are cases in which the action of the remedy, if exhibited, may proceed too far; which, unable to resist the prostrating effects of the medicine, might be followed by a collapse, to which the vital powers of the system might succumb. This is a contingency which should be sedulously kept in view; and prudence demands, therefore, some care in the selection of proper cases for its exhibition."

**ART. 88.—Rare Case of Complicated Parturition.**

By JAMES GRAY, M.D.

(*Edinburgh Monthly Journal*, Jan. 1851.)

The following case of protrusion of the head of the child through the recto-vaginal septum in a common head presentation, is interesting from its rarity:

On the evening of February 26th, 1850, Dr. Gray was summoned to Mrs. Y—, in her first labour. He found her with severe expulsive pains. Hearing the child cry, he examined and found, as he thought, the head partly born, and covered by the membranes. A more careful investigation showed that the os externum was thrust upwards and forwards, the perinæum greatly distended, and the anal orifice dilated, exposing its mucous membrane to the depth of an inch. The head presented in the second position, and the membranes were entire. The next pain stretched the perinæum still further, without affecting the vaginal orifice. While endeavouring to guard against rupture of the perinæum, the author felt something give way, and soon a child's hand protruded from the anus; the pains increasing, the perinæum was momentarily expected to give way, but by great care this was prevented, and in about half an hour the external parts relaxed, and the head came through, the hand and arm at the same time being further propelled in their unnatural direction. As the shoulders were delivered, the author contrived to push the arm back within the rectum, and it was speedily made to issue with the rest of the body, *per vias naturales*.

On examination of the parts the rent was found to be a little above the verge of the anus, but from the contraction of the bowel, it had been reduced to a mere fissure. No treatment was necessary beyond that of simple attention to cleanliness.

**ART. 89.—Hints on the Treatment of Lacerated Perinæum.** By Dr. HORNER.

(*Prov. Med. and Surg. Journal*.)

Dr. Horner having a case in which the usual operation by paring the edges of the fissure had completely failed, determined on endeavouring to close the aperture by a plastic operation. He, accordingly, after placing the patient under chloroform, made two flaps from the perinæum and vulva, one on the right and the other on the left, the base of the right flap being below, that of the left above. Upon crossing these flaps a partition was formed between the rectum and vulva, which was rendered permanent by fixing the flaps *in situ*, by interrupted stitches. For the first ten days success appeared certain; but subsequently it was found

that the left flap had shrivelled, the right flap had also diminished, but still remained as a barrier between the two canals, and with a linen compress introduced into the vagina, so as to keep it in its place, the discharge of fæces was regulated so as to give but little inconvenience. On a later examination of the parts, they were found to be much improved. The traces of the operation had subsided, and there appeared to be a perfect division between the anus and vulva. The completeness of the union was, however, only external, as there was a small recto-vaginal fissure internally, which the author expected to overcome by a protracted use of caustic.—(*American Journal of Medical Science.*)

[This is the only instance, to our knowledge, in which autoplasmic surgery has been made available in lacerated perinæum; but it strikes us as a very feasible operation, and likely to be a good substitute for the tedious method of revivifying the lacerated edges in old cases.—Ed. P. J.]

ART. 90.—*Successful Case of Transfusion.* By G. BELLASIS MASFEN, Esq.

(*Lancet.*)

On the 30th of July, 1848, at 1 P.M., the author was called in to attend Mrs. B—, a lady of particularly delicate appearance, in her thirty-eighth year. It appears that on the evening of the 29th she had perceived some slight sanguineous discharge from the vagina, and had consulted the author's father, to whom she described herself as being four months advanced in her tenth pregnancy, but thought that the child had not grown for the last month or two. He ordered a mixture containing diluted sulphuric acid with Battley's sedative; but the discharge continued to increase until about 7 o'clock this morning, when it became quite alarming. Plugging and injections of oak-bark were tried, but with no effect, and a dose of ergot was administered, which produced a severe pain, and the expulsion of a two-months' fœtus; but the hæmorrhage continued to increase till 1 P.M., when Mr. Masfen first saw her.

He found her excessively weak, from loss of blood; not the slightest pulse was to be felt at the wrist; and she became at last insensible. The stomach rejected everything, and though the hæmorrhage had in a great measure stopped, there was every symptom of sinking and speedy dissolution.

About 3 o'clock, it being the opinion of every one present that it was the only possible means of saving her life, the operation of transfusion was decided upon, which the author performed in the presence of his father and Dr. Knight. He immersed a four ounce brass syringe in water at the temperature of 110 deg. Fahr., and drew a full stream of blood into it from the arm of a stout buxom-looking servant maid. This was injected into a vein on the left arm, taking every precaution to prevent the admission of any air-bubbles. As the operation was going on, consciousness appeared to be somewhat roused, and the pulse became slightly perceptible at the other arm, but in the course of half an hour the pulse had again disappeared, and she remained still unconscious. He then a second time injected three ounces of blood into the right arm (the veins were so small and empty that there was difficulty in finding the same opening twice); this was again attended with a return of pulse and sensibility, which, however, gradually disappeared as before. After an interval of nearly an hour, he injected a third three ounces of blood, which produced more permanent good effects; the pulse gradually rose as the injection went on, colour made its appearance in her face, and she inquired if we had been bleeding her. During the evening she complained much of thirst, and she had occasionally a teaspoonful of wine-and-water.—Eight P.M. The pulse was slightly perceptible, but was not to be counted; she attempted to take a cup of tea, but it was immediately rejected, as was also even a teaspoonful of water, and she remained all night awake and thirsty, but afraid to drink even a little water.

31st, 6 A.M. The pulse was 150, and very much increased in strength; the tongue dark-brown, hard, and dry. Ordered three drops of creasote in the form of a pill. She vomited almost immediately after taking it, but did not throw up the pill, which from that time appeared to allay the sickness. She then took a tablespoonful of brandy mixture every hour. In the evening she still complained

of thirst, and was ordered the following mixture:—Sesquicarbonate of soda, two and a half drachms; sesquicarbonate of ammonia, half a drachm; compound tincture of cardamoms, two drachms; oil of lemon, six drops; distilled water to six ounces. Two tablespoonfuls to be taken every three or four hours in a state of effervescence, with twelve grains of citric acid. There was great extravasation of blood for six or eight inches above and below the elbow in both arms, probably the effect of the injection. Ordered warm-water dressing.

August 1st and 2d. She continued gradually improving in appearance; her pulse was slower, and she was better able to take slight nourishment. The arms were becoming more ecchymosed, and she complained of great pain in them. The warm-water dressing was continued.

28th. She has now quite recovered the use of her arms, and is in general good health. From this time the author discontinued his attendance.

In June, 1849, she miscarried again, but otherwise she has remained perfectly well up to the present time.

## SECT. II.—DISEASES OF CHILDREN.

### ART. 91.—*On the Treatment of Acute Hydrocephalus.*

By Dr. HENRY KENNEDY.

(*Dublin Quarterly Journal*, Feb. 1851.)

Much as has been written on hydrocephalus, much still remains to be cleared up on the subject. With what a number of difficulties is it not yet surrounded? Who has not seen instances where the difficulty of arriving at a correct diagnosis has been great, or not heard of other cases where the medical attendant has been surprised by the sudden invasion of acute head symptoms, over which his art had little or no control? Or, again, who knows not how frequently other, and apparently very dissimilar, and it may be trivial affections, terminate in this intractable and most fatal one? Some such thoughts as these have induced the author to bring under notice this subject once again. It should be premised, however, that he is not now about to enter into the subject at large, but merely, after detailing a few cases, to make some remarks which the cases themselves, as well as the additional experience of the last six years, have forced on his attention. For the cases themselves Dr. Kennedy is chiefly indebted to his attendance at the Cork-Street Hospital, and to the kindness of his friend, Dr. George Kennedy. The number of cases of the disease that are to be seen there, one year with another, has often surprised him; and there, as elsewhere, it occurs, that when one case is admitted, others are sure to follow. With these few remarks, Dr. Kennedy at once proceeds to narrate the cases alluded to.

CASE I.—In May, 1845, I assisted my friend, Dr. Fawcett, of Clontarf, to make a *post-mortem* examination of a boy aged four years. He was a perfect model in shape, and seemed to have been in very good condition. Though I am unable to state the exact time, it appeared that, some few days previously to his last and fatal illness, he had a severe fall on his way home from school. This was followed by a state of dullness and listlessness, which lasted for two or three days, when he began to complain of his head; this was shortly followed by vomiting of an unusually severe character, attended with symptoms of very high inflammatory fever. He was then seized with convulsions, affecting one side more than the other. The treatment was most prompt and decided, consisting of general and local bleeding, with calomel and blisters, and for a time with apparent amendment; but the violent symptoms recurred, and the boy sank on the fourth day of the acute attack. The head only was examined, and there we found, particularly on the anterior lobes, a considerable quantity of healthy pus effused, smeared, as it were, over the brain's surface, but still on the arachnoid. On making a section of the organ, a large number of bloody dots appeared. There was some effusion into the lateral ventricles. The base of the brain was healthy.

CASE II.—A girl, aged six years, was admitted into Cork-Street Hospital in October, 1849; she was a thin, delicate-looking girl, and one of three other cases

admitted about the same time, all labouring under hydrocephalus. It is unnecessary to enter into any details, further than to say that, in the progress of her illness, she presented the following symptoms;—slight, but well-marked signs of fever; great and constant complaint of her head:—the cry so peculiar to the disease going on night and day for many days, disturbing the patients in the ward; and then, as the disease advanced, convulsions of one side of the body, while the opposite side was rigid; dilatation of the pupils, one more than the other, with injection of one of the eyes; loss of flesh, and tendency to bed-sores. After these symptoms were present, more or less, for twelve days, the girl began to show signs of amendment. The eyes gradually got more appearance of life about them; the tongue would occasionally be put out; the fits of screaming ceased, at first in the daytime, and finally at night; and the rigidity of the body, together with the drawing back of the head,—which, I should have stated before, existed all through in a very marked degree,—finally disappeared; and the little patient, given up as lost some days before, made a good though slow recovery.

CASE III.—In the month of October, 1850, Wynne, a very delicate boy sixteen years of age, was admitted into Cork-Street Hospital, labouring under fever. He was reported to be a fortnight ill. He had a hot skin and heavy eyes, with a contracted state of the brows; his tongue was furred, with a brown stripe down the centre, while his pulse beat but 60 in the minute, and was equal. He had some tendency to bowel complaint, and the nurse stated that he had vomited several times since his admission. On questioning him his only complaint was of his head, and he referred the pain to his forehead, just over the eyes. He remained very much as described for many days, during which all his complaint was of his head, while his pulse never exceeded 60, and on two occasions was as low as 54. During this period, too, he vomited several times, and frequently without any assignable cause. Finally the pulse rose to about 70, and with this change the other symptoms subsided, but so slowly that a month elapsed before the boy left his bed, and when up his appearance was far from that of health; nor could he be said to have fully recovered even on leaving the hospital some time later.

CASE IV.—At the very time that Wynne was in hospital, another boy, æt. 16, was admitted, labouring under symptoms precisely similar. He was of small stature, but his head was large. When four years old, he had awakened out of sleep affected with paralysis of the left leg and arm, and from that to the period of his admission into hospital he had never recovered the use of either. They were now both atrophied and contracted. On his admission his countenance was heavy, and expressive of suffering; he had fever, but not to any extensive degree; a very furred tongue being the most striking feature of it. He had repeated vomiting both before and after his admission; the pulse at this time being, as in the last case, only 66, at which it remained for five days, and then rose. This boy's only complaint was of his head, and for some days the pain was of a very intense kind. By treatment, of which more will be said again, the symptoms gradually, though very slowly, subsided, and he was finally dismissed well.

In addition to those given, the author has seen one other case, occurring in a girl of 17, where symptoms of fever ushered in head symptoms of a very marked character, and in which all the usual signs of hydrocephalus, including vomiting, dilated pupils, strabismus, slow pulse, and fever, were present. The patient recovered, though her recovery was unusually protracted.

The foregoing cases have been given with a particular object in view. The last four include all those of recovery which the author has seen, in a period now of several years,—a rate of mortality which, amongst what are called acute diseases, is only surpassed by hydrophobia itself. With such a fact in view, he thinks we are justified in calling in question, or at least reconsidering a disease and its treatment, where the mortality stands so excessively high. It is with this intention that these remarks are now put forward, and here, as in every other instance, he wishes them to be considered as suggestions merely.

The author would begin this part of the subject by observing that the words "acute hydrocephalus" appear to him to have been unhappily chosen; for they at once convey the idea, as regards treatment, of bleedings, whether general or

local, together with other parts of the antiphlogistic plan; and that they lead to this line of treatment, there can be no doubt. All the standard works on the subject bear him out in this statement. The author inquires, is the form of hydrocephalus which we most commonly meet an acute disease? To this question he replies in the negative. It is quite true, he observes, that we shall meet the disease presenting very acute symptoms, and running a very rapid course. But the author asserts that such are the exceptions to the general rule; and that in by far the majority of instances the disease is more of a subacute than of an acute character. The child's health is observed to be failing before the attack; he looks ill, and has possibly been losing flesh; and when the head symptoms do show themselves, though there commonly is considerable reaction, still, all who have observed the disease, must recollect that this will have, in great part, subsided for days before the fatal termination; nor indeed is it at all uncommon to see patients die with cold and livid extremities, failing pulse, &c. But again, does this form of the disease—which, it must be repeated, is the most common form—terminate in the same time as an attack of acute disease, such as pneumonia? Every one must answer in the negative. In my own experience the average duration of the disease has been three weeks; sometimes a day or two under this, but as frequently a day or two over. There still remains one other reason, and to my mind it appears a very strong one, why we ought not to consider the more common form of hydrocephalus an acute disease. It has happened to the author on several occasions to meet, amongst the poor, cases in which literally nothing had been done for days after the commencement of the complaint. Under such circumstances it might be expected that the disease would have run a more rapid course; but such was not the result; for though the children did ultimately die, they certainly held out as long as cases in which treatment had been enforced from the commencement of the attack.

But further. If we come to the nature of this intractable disease, the views put forward are still more fully borne out. For what is its essence; why is it that it should not yield, like other acute diseases, if it be of the same nature? Simply because it is not an acute disease, as the terms are usually understood. It is not like pneumonia or peritonitis; on the contrary, the author agrees with those who look upon it as a constitutional affection, and allied, in the great majority of instances, to the strumous diathesis. It has been Dr. Kennedy's lot to have examined after death a very considerable number of cases of hydrocephalus, and in every instance where the examination extended to all the cavities, he has invariably found tubercles in one or other organ of the body, sometimes in several organs at the same time. The liver, spleen, kidneys, mesenteric glands, lungs, and even the heart itself, have been so contaminated; and in some instances he has found tubercles in the substance of the brain. Nor are these facts at all novel. Some forty years ago, Cheyne stated that it was common to find tubercles in the liver in these cases, and the fact has been confirmed by many other observers since. But the author thinks it may be questioned whether the deductions which fairly arise from them are kept as prominently in view as they deserve.

If the foregoing remarks, then, be correct, it will be now understood why the author is inclined to suggest that the term "acute hydrocephalus" should be changed; or, at least, if retained, that it should be understood as not indicating acute disease, as it is commonly spoken of, but rather a sub-acute affection. Probably some may think that the mere change of terms would be a matter of little moment; Dr. Kennedy confesses, however, he does not think so, but that it would be of importance if some term were used which would indicate that we have not acute disease to deal with. Passing by, however, the mere change of name, other and more serious questions follow from the views which have been advanced, namely, as to treatment, and this is really the important part of the subject; and as regards it, he ventures to propose the following question: Is the treatment of the more ordinary form of hydrocephalus too heroic? He believes it to be so, and that a better prospect of cure will be held out by a treatment a good deal modified from that in common use. The limits, however, of this paper prevent him from entering into the subject at any length, and he therefore confines himself to a few remarks on two of the remedies in most general use,

namely, bleeding and mercury. Of the former,—and he speaks only of local bleeding, he has fully satisfied himself that, speaking, of course, of the great majority of instances, very little of it will answer every purpose. This point he has been confirmed in by what has been already stated—viz., that cases left to themselves for days did not appear to run a shorter course than those where treatment had been adopted from the outset. What the author would suggest, then, would be the use of as much local bleeding, and no more, as would suffice to relieve pain; for as to cutting short the progress of the disease, he looks upon it as vain. There are, however, cases of the disease of a really acute kind, and these must be met, not only by free local, but even by general bleeding. It was to illustrate this that the first case which the author detailed was given; and this, too, is an additional reason for drawing a distinction between what is *really* acute, and what has hitherto been called acute disease. But then it must be borne in mind that the former is the exception to the general rule, and that for one such, there are at least ten of the latter, possibly more. Of the acute form of the disease, the author has seen different instances where the result was favourable; one, some short time back, he saw casually with Drs. Irvine and Denham.

To mercury, similar remarks, Dr. Kennedy thinks, apply. It would seem, as far as he has seen, to be used as a *sine qua non*; and yet the results do not appear to justify such a faith in it. If the attack be of the really acute disease already spoken of, probably no better medicine than calomel can be employed. But in the more frequent form of the affection, he has had the conclusion forced on his mind, that other means held out a better prospect of success; and the same conclusion had been arrived at before, by the physician to whom he has alluded in an earlier part of these remarks, Dr. George Kennedy.

The author mentions, as bearing out these views, that he has notes of more than twenty cases of hydrocephalus, in which the specific effects of mercury were produced, and yet in not one of these cases was the result favourable, to say nothing of others where salivation could not be induced. And, indeed, if we consider for a moment the specific nature of the disease, it will not appear strange that such an amount of fatality should attend it. It is, he believes, an established rule that mercury does not act favourably in strumous constitutions. Hence we can offer some explanation, at least, why such unfavourable results should occur in the cases alluded to. Is it, he would ask, in weak, strumous children, with a strong predisposition to form tubercles, is it right to give mercury, and do our utmost to induce its specific effects? The answer to this must be in the negative. But then it will be asked, what other resource is there—what means would you use? And this leads him in conclusion, to make a few remarks on the treatment which he believes holds out the best prospect of success.

At the commencement of this paper four cases were given, in which recovery took place after the disease had passed into the second stage, that is, when the pulse had fallen. Now it is specially worthy of notice that three out of the four had never been salivated; and in the fourth salivation was produced more by accident than design; in fact he had got a small quantity of hydrargyrum cum creta, when his mouth became suddenly and severely sore. They were all leached, and the gray powder, in very minute doses, as an alternative, was administered in antimonial powder. Blistering was very freely used, at first in the ordinary mode, and subsequently, in two of the cases, under the form of the tartar emetic plaster applied to the head; and in this way a constant discharge was kept up. But, in addition to these measures, particular attention was paid to keep up the strength; some got beef tea and others wine, and this while the disease was still present. The child of six years old got two ounces of wine, which was increased to three in the day; and this was given while the pupils were still dilated, while the screaming was constant and the convulsions existed; and it was apparently under its use that this child rallied. Other measures, which are, however, in every-day use, were also enforced, but need not be spoken of here. The recovery of all was unusually protracted and slow, as indeed we might expect in such cases.

From this brief sketch it will readily be inferred what the line of treatment is which the author would venture to suggest in this intractable disease, and he only ventures to suggest it, inasmuch as the experience he has had has been too

limited to enable him to speak with confidence of it. But he asks, Is it not better to act on a hint of this sort, few though the recoveries have been, than continue in the beaten path, which we know, as a matter of fact, leads to such a fearful mortality? The author does not think that there is anything irrational in the general views of the disease which have been now stated, while the mortality above alluded to will justify any modification of treatment which will hold out a reasonable prospect of success. To sum up, then, he would say that the ordinary form of hydrocephalus is a sub-acute disease, that bleeding and mercury ought to be very moderately used in this form of it, while wine or other stimulants ought to be given as early as prudence would justify.

ART. 92.—*On Laryngismus Stridulus.* By Dr. SCHÖFF MEREL.

(*Edinburgh Monthly Journal*, Nov. 1850.)

The description of the neurosis under consideration is rather difficult; but it is sufficient to have witnessed a single case, in order to recognise all which subsequently present themselves. There is something characteristic in this affection,—it is the impeded inspiration, which consequently becomes laborious and sonorous.

An infant about to be attacked with laryngeal spasm at first shows a disposition to cry, but presently the constriction of the glottis prevents the emission of the sounds usual in these circumstances, so that after one more or less prolonged *natural cry*, (by which the author understands the act of expiration while weeping,) there follows a back-draught, (*reprise*), which is noisy and obviously forced. After this, all the succeeding cries are short and stifled, while the inspiratory sounds are, on the contrary, very noisy and prolonged. We see, then, that the spasm which comes on during the act of *crying* has changed, or rather inverted, the characters and relations of the cries and back-draughts thus:

*In a Child crying naturally,*  
Cries sonorous and prolonged,  
Back-draughts short and not loud.

*In a Child attacked with Laryngeal Spasm,*  
Cries faint and short.  
Back-draughts long and noisy.

In proportion to the violence of the spasmodic attack will these characters of the inspiratory and expiratory acts be well marked; in exquisite cases the back-draughts become extremely loud, laborious and prolonged. During these acts of abnormal and impeded weeping, the physiognomy of the infant is expressive of extreme anguish; the head is motionless and bent backwards, the mouth widely opened, the face swollen and red, its muscles tense and prominent. After half a minute, or at most a minute, the inspirations become less and less long and noisy, while the cries of the child become again audible, and gradually regain their normal character and duration. Thus the spasmodic attack is resolved into a fit of crying; and it not unfrequently happens that an infant, which two minutes before seemed in imminent danger of suffocation, and in a condition frightful to behold, returns to the amusement interrupted by the paroxysm.

We have said that these fits commence almost constantly with crying; we may add, that the crying is sometimes occasioned by the commencing spasm, but that at other times crying, excited by other causes, provokes the spasm of the larynx. This can readily be conceived, when we reflect that violent fits of crying, in very nervous individuals, have almost always more or less of a convulsive character.

The varieties of the affection which we have observed depend upon the varying intensity and duration of the spasm; there are, in fact, cases in which the characters of the disease last only for a few moments, and in which the infant, seized with a slight fit in the midst of its play, presents no other symptoms than great restlessness, a slight stifled cough, and frequent acts of deglutition, involuntary and difficult. At the same time it is irritable, or repulses all advances made

to it; but before it bursts into tears all these phenomena disappear, and the child regains its usual condition. We witness symptoms almost identical in nervous females suffering from slight attacks of globus hystericus.

Between the slightest degree of spasm and that first described, there are numerous intermediate gradations; and the slight attacks are worthy of our attention, being often the precursors of the more violent. Eclampsia is sometimes superadded to violent forms of laryngeal spasm, or these affections may alternate. The same fact is observed in nervous females. Globus hystericus passes into general convulsions; and the form of disease termed *eclampsia* does not differ essentially from hysterical convulsions. But in children this transition always denotes a very violent and dangerous nervous affection; and it takes place almost always in the cases of laryngeal spasm which terminate fatally.

One of the most frequent forms of the affection is that which is accompanied with cough, always of a spasmodic character. Then, instead of cries or screams, short and frequent expiratory efforts are heard, together with sounds of coughing, interrupted now and then by one of the prolonged sonorous inspirations already described.

The inspirations, then, are always of the same nature in cases of laryngeal spasm, but the expirations may be variously modified.

A very violent form or degree of this spasm has been described by Dr. Millar; and as he was the first to direct attention to the affection, succeeding physicians termed it "*asthma infantum Millari*." The description which he gives applies to ordinary laryngeal spasm extending to the bronchi, and usually attacking very young children. In fact, the younger the child and the more tender its constitution the more violent are the spasmodic attacks which affect it. In such cases the bronchi as well as the larynx suffer strong constriction, alternating with convulsive shocks, as an exact observer may determine by external examination.

Dr. Kopp believed that he was the first to discover a new species of spasm, which he attributed to hypertrophy of the thymus gland; and physicians, following his example, admitted an *asthma Koppii* as well as an *asthma Millari* into their nosology. The distinctions between these affections are, however, so slight, that they possess a merely historical interest. In the course of this article, we shall prove that the abnormal condition of the thymus gland is merely a frequent coincidence with the retarded evolution, or with that excessive development of the cerebral mass which pathologists are too fond of terming cerebral hypertrophy. It consequently often coexists with laryngeal spasm, but is not its cause.

The varieties of the affection might be multiplied, if regard were paid to the periodicity and frequency of the paroxysms. A certain periodicity the author has observed in infants of great nervous susceptibility. One whom he treated had for several weeks a paroxysm every evening, at an almost fixed hour. In other cases, paroxysms succeeded each other every two or three hours, from morning to evening, and with great regularity. The author has also known fits to occur at night and during sleep. These cases have usually been most dangerous, on account of the frequency and rapidly increasing violence of the paroxysms; and when the infants were very young—from one to three months old—terminated almost always fatally. He has likewise seen infants who suffered from laryngeal spasm whenever they were the subjects of gastric derangement.

*Termination.*—The affection often terminates favourably, even without the use of remedies. The author has seen cases in which the paroxysms, at first frequent, gradually diminished, and finally ceased after a few months, when the infant had attained a certain amount of organic development and strength. Laryngeal spasms, which occur between the sixth and ninth month (at the period of commencing dentition), often cease when a few teeth have appeared. The fits, too, which attack very delicate infants, in whom the ossification of the cranium is retarded,—fits for the most part slight, or of moderate intensity,—often cease spontaneously about the tenth or twelfth month.

The younger the patient, and the more violent and frequent the successive attacks, the greater is the danger to life. In such circumstances the spasms almost always pass into eclampsia or general convulsions, and these occasion death either immediately or after repeated fits. The author has, however, in his practice, met with several instances in which the case terminated favourably,



notwithstanding the frequent repetition of these alarming transitions. A few cases have occurred in which the spasm of the larynx, extremely violent and extending to the thoracic organs, has caused death without the intervention of eclampsia.

The time of life at which the disease occurs is almost exclusively confined to the period between the third and tenth months. Cases in infants above and below this age have been, in the author's experience, rare.

*Pathology.*—Dissections, which the author has often conducted, have only demonstrated what we might infer from the external examination of such children during life. The anatomical condition, with very few exceptions, has been as follows:—Cranium proportionately very large, but its ossification defective when the child's age is taken into account; the sutures more or less open; the mass of the brain large; its consistence often very soft. In some rapid and violent cases, he has seen meningeal congestion, but never inflammation well marked, or characterized by its special products. The thymus gland in a fetal condition, proportionate to the early age of the infant, and to the abnormal cerebral development, with deficient cranial ossification. The author must, however, remark, that this condition of the thymus is seldom observed, except in children whose development is evidently retarded, and who have passed the fourth month. He has, on the other hand, examined numbers of children who have died of convulsions consecutive on laryngeal spasm, and whose bodies exhibited no trace of the fetal condition of the thymus. He uses the term "fetal condition," because he has never seen a case to which the denomination of hypertrophy of the thymus could be fairly applied; what he has seen seemed to be the *incomplete retrograde metamorphosis*,—i. e., persistence of the fetal state of the gland. In the organs of the chest and abdomen, he has seen no morbid appearances essentially connected with spasm of the larynx. The extremities, especially the lower ones, were in almost all the cases very meagre. The greater proportion of these patients were of fair complexion, and apparently of feeble make.

*Causes.*—The disposition to, or constitutional causes of, laryngeal spasm, can only consist of an excessive nervous susceptibility, united with a feebleness in organic development. In treating of the results of his necroscopical examinations, the author has just given a description of the constitution and physio-organic condition of children who during their life were the subjects of these fits. The others, in whom the disease terminated favourably, almost all presented the same appearance. With few exceptions, all these infants had brains proportionally large, retarded cranial ossification, meagre, feeble extremities, and an imperfect muscular development.

The exceptions to this general rule consisted of patients in whom the laryngeal spasm only existed in a slight degree, or in whom the paroxysms were unfrequent, and due to transient exciting causes,—e. g., abdominal derangement, especially obstinate constipation. Early dentition is also an occasional exciting cause. Hereditary predisposition also merits our attention. The infants of feeble, nervous, hysterical mothers are more subject to laryngeal spasm and eclampsia than other children.

The occasional external exciting causes are but few in number. To gastric derangement and to the efforts of dentition we have only to add anger, and violent fits of crying, excited by any cause, in infants of feeble nervous constitution. In some instances, it has appeared to the author that a violent moral perturbation on the part of the mother during the period of lactation, has induced spasm of the larynx, or general convulsions, in the child. We have already alluded to the mistaken opinion of Dr. Kopp, who believed the cause of the disease to consist in tumefaction or hypertrophy of the thymus, and consequent pressure on the subjacent respiratory organs and nerves. A constant material cause like this could not induce an effect merely periodical; but what is more important, in several of our dissections we have been unable to detect the faintest trace of this abnormal condition of the thymus, peculiar to intra-uterine existence. In some cases the organ had completely disappeared.

The nature of the disease, to the best of our conception, is purely nervous, consisting in excessive innervation. The pathological appearances, the causes,

constitutional and local,—in short, all the observations above made, constitute the grounds of our opinion. It is remarkable that the author has met with no case of encephalitis or meningitis, nor of vital exhaustion or *anæmia*, with which laryngeal spasm was associated as a symptom.

The local expression of this neurosis consists in spasmodic constriction of the fibres of the larynx, sometimes extending to the pharynx, to the trachea, and bronchi. The intimate union of the nerves supplying these parts may serve to account for the extension of the disease.

The analogy between laryngeal spasm and globus hystericus is inferred from close observation of the movements of the mouth, pharynx, and larynx in children and women subject to these affections. Women who suffer more or less patiently, and without weeping, can indicate the precise seat of the spasm; but children, on the contrary, can give no such information, and commence to cry the instant that the spasm is felt. And it is precisely the respiratory and muscular actions proper to weeping which cause the laryngeal spasms of infants to assume a greater violence and aspect different from the spasms of females. But the exact observer will not be deceived by this difference. In infants and in females he will observe the affection to commence with a like restlessness and nervous irritability; the involuntary movements of deglutition and respiration, the expression of the countenance, are the same; and what the female can tell in words, the infant indicates by its cries or involuntary movements. In both infants and females the affection is apt to pass into or alternate with general convulsions; and both the hysterical colic of adults and *abdominal spasm* of infants are sometimes observed to induce spasm of the larynx. There are, however, two important points of difference. Many infants die of the laryngeal disease, but women exceedingly rarely, which may be easily accounted for by the weakness and delicacy of the whole organization of the former. Again, infants are only subject to laryngeal spasm when very young,—very rarely after the completion of the twelfth month. This we can only account for by referring to that particular stage of arrested organic development very common between the third and ninth month, which is usually attended with excessive nervous susceptibility. This last condition, on the contrary, is found in females most commonly between the twenty-fifth and fortieth year,—a period fertile in uterine and nervous derangements. But these points of difference ought not to prevent us from admitting the analogy of the two affections.

*Diagnosis.*—The diagnosis is very easy. It is sufficient to have seen a single case of the disease to avoid all risk of confounding it with any other; but it is important to ascertain, in a case submitted for treatment, if the laryngeal spasm is constitutional and primitive, or occasional and secondary to some other affection or transitory cause. We should consider it constitutional, and of nervous origin, when the disposition or habit of the child is such as we have described,—when the disease has crept on gradually,—and when we can discover no occasional cause. On the other hand, when the infant has symptoms of any other indisposition, we should suppose the fits to be secondary; and this we may do with all confidence when the appearance of the child indicates no constitutional predisposition. We must, in such cases, make minute inquiries to arrive at a precise diagnosis, directing our attention particularly to those occasional exciting causes which we have already considered.

*Prognosis.*—This is influenced by a variety of circumstances. The younger the child, the more delicate its organization,—the more violent and frequent the paroxysms, the greater is the danger. The passage of the disease into general convulsions is for the most part to be dreaded as a formidable symptom. When we are called to witness a first attack, our prognosis must be doubtful. If, on the other hand, we see that, after the first attack, the child is in good health, and still more if the child has had several attacks without losing its strength, or exhibiting marks of any lesion, organic or functional, there is no reason to despair of a cure. Infants above three months old recover from this affection better than those of a more tender age. But at the period of dentition, when we clearly see that this proceeds with difficulty, and when, in such circumstances, a feeble child, after suffering for some days from marked uneasiness, becomes the sub-

ject of laryngeal spasm, the danger is imminent, and we have to dread sudden death from violent eclampsia.

*Prophylaxis.*—The prophylactic means should be those calculated to procure a regular development of the frame from the period of birth. Nourishment adapted to the particular age and constitution, and a clear, pure, and dry atmosphere in the nursery, are the principal means of rearing healthy, strong, well-developed children, and consequently of warding off spasms and convulsions. There are no special prophylactic means.

*Treatment.*—The medical treatment should be directed against the special causes of the spasms, against the constitutional predisposition, or directly against the paroxysms. To avoid the cause, if such be found, will be almost equivalent to conquering the disease; and, as we have already pointed out the different causes, the means to oppose each will naturally suggest themselves to the skilful practitioner. We shall here merely make a few remarks upon the cases in which dentition is presumed to be the exciting cause. In the first place, before we can attribute the fits in question to this source, we must be assured that the dentition is proceeding irregularly; and of this we obtain local evidence, from the swollen and tender state of the gums, and from the profuse salivation; while we observe proofs of another character, in certain symptoms which commonly accompany painful dentition—bad humour and gastric derangement. We shall suppose that it is ascertained that dentition is at fault: what is to be done? If there is excessive heat in the mouth or on the forehead, and if the constitution of the infant is not too feeble, we should apply two to four leeches to the neighbourhood of the nostrils, (to the interior of the mouth is not proper at this early age,) cold should be applied to the head, and two or three liquid motions should be procured every day by the exhibition of a suitable purgative, or by the use of cold water with a little sugar, which, for young infants, is the best of cooling purgatives. If the child is strong, and the symptoms do not yield, the application of leeches may be repeated, and the free margins of the gums scarified. If, however, the child is very weak, or of a very delicate or nervous constitution, we should abstain from leeching and purging; and if the head is not hot, instead of the internal and external refrigerants, we should give several times a-day a spoonful of infusion of chamomile, with a drop or two of *sp. melissæ*. To correct the faulty constitution, or to give a healthy impulse to the vegetative forces,—the most sure means of diminishing that excessive nervous irritability which is of itself sufficient to induce spasm,—the author calls the attention of physicians to three remedies, which, in a considerable number of cases, he has used with excellent effect.

No remedy can bear comparison with *cod-liver oil*. If the retarded evolution is at the same time united with a state of atrophy more or less perceptible, the success of the medicine will be the more remarkable. To a child of two to four months old, we should give, in the course of the day, two to four teaspoonfuls; a child of six months can take two tablespoonfuls in a day. If the use of the remedy induces diarrhœa, we should give at the same time, every day, one or two small doses of Dover's powder, without discontinuing the oil; but if moderate doses interfere with the appetite and digestion, the use of the oil must be abandoned. This has rarely occurred in the author's experience; and in such cases he has employed the oil endermically, rubbing in from 3*ss* to 3*j* along the spine every evening.

*Washing of the whole body with water*, used gradually colder and colder every morning from a time varying from one to four minutes, together with *cold affusion* on the head, constitutes another remedy which the author can sincerely recommend. It is, indeed, a remedy of sovereign efficacy against exaggerated nervous susceptibility. If the skin of such infants does not seem sufficiently active, he directs the washing to be performed with a mixture of one part of alcohol to eight or fifteen parts of cold water. We need hardly remark, that these washings, continued but for a short time, and performed with a fluid which rapidly evaporates, can have no stimulant or too exciting effect upon the nervous centres. After the washing, the body should be well dried, and if the day is not moist the child should be taken out to the open air. These are the two chief remedies for correcting the disposition to laryngeal spasm when it is well marked.

Iron is, however, a remedy worthy of our confidence, when there is evidently a chlorotic condition—i. e., a diminution in the quantity of the blood, or impoverishment of its quality. When this condition occurs in conjunction with the above-mentioned constitution, the cod-liver oil should be administered in preference to all other medicaments. But after persisting in the use of the oil for some weeks without notable amendment of the chlorotic symptoms, recourse must be had to iron. The Carb. Ferri Saccharatum is a preparation well adapted for the use of infants. As an average dose, we may order for a child of four months a grain of the carbonate, to be taken twice or thrice a-day. The dose of the tincture of iron is two drops thrice daily. The effects of the medicine upon the abdominal organs and upon the blood, must be always carefully watched.

The purely antispasmodic remedies, which practitioners and authors, both ancient and modern, recommend, have not, in the author's experience, seemed of much advantage. These drugs can, of course, be administered only during the *intermissions*, to prevent frequent fresh accessions of the paroxysms. The author has experimented with almost all the stimulants and calmatives of the nervous system; opium is quite unsuitable in this form of spasm; and musk he has never known to produce favourable effects. Sp. Melissa, in doses of two or three drops, given twice or thrice daily in a little warm infusion of chamomile flowers, has, he thinks, been useful in the cases of very delicate infants, who, after very violent and frequent paroxysms, have been much exhausted. In such children, after a few days' use of this remedy, the paroxysms have become less frequent, while there has been proportionate increase of vivacity and strength.

Quinine is a remedy worthy of all our attention. I have only commenced its employment within the last three years, and have used it in about a dozen cases. In above the half of these, the effect has been equally sudden and satisfactory. The cases in which I prescribe it are those of weak and obviously nervous infants, suffering for weeks or months from fits, but during the intervals free from all disease, eating and digesting well, and without hardness of the abdomen. In such circumstances, I have given the largest possible doses of quinine, just as we should do in cases of ague or intermittent neuroses. The prescription for infants of four to six months is the following:—

R Aq. Melissa, ℥ss;  
Mur. Quinin., gr. vi;  
Acid. Mur., q. s.;  
Syrup. Capill. Veneris, ℥j. S.

A teaspoonful should be given every second hour, till symptoms of gastric disturbance, indicative of the physiological action of quinine, be induced. Success will in suitable cases follow the use of the drug in two or three days. The periodicity of the fits being broken, we may next apply our treatment to the correction of the morbid disposition. As some infants cannot tolerate the use of quinine, we must be prepared to diminish the dose, or even, in some cases, to relinquish the use of the remedy altogether.

#### ART. 93.—On General Convulsions of Children.

By Dr. AUGUST SCHUEFF M.D.

(*Edinburgh Monthly Journal*, Dec. 1850.)

Infants of very tender age, especially such as have not completed their first year, are far more subject to convulsions than adult females—and these convulsions very frequently terminate in death—while in the hysterical attacks of females this occurrence is extremely rare. The reason of the comparative frequency and danger of these attacks in infancy is the extreme susceptibility of the nervous system at this early age—a susceptibility certainly exceeding that of adult females, as theirs exceeds that of the male sex. The effect of this irritability during infancy is, that the production of the slightest abnormal impressions on the organism is apt to be followed by derangement of cerebro-spinal innervation, manifesting itself by spasmodic or convulsive movements.

*Symptoms.*—The *nosography* of infantile convulsions is detailed with sufficient distinctness, and it may be even said has been completed in many works of ancient date. Would it were so with the pathology and treatment of the affection! The convulsions may be slight and partial, or violent and universal—there is infinite variety in the degree of violence and in the duration of the paroxysm. The attack is often preceded by abdominal spasm, or laryngeal spasm; but it not unfrequently makes its invasion without warning, either in a slight and partial degree or in the more formidable form as eclampsia.

The slightest and most common partial convulsion—one, moreover, which is almost always the first to appear in an attack of general convulsions—manifests itself about the muscles of the mouth, as if the child were smiling, and in the muscles which move the eyeballs; there is next a slight twitch of the whole head, which is suddenly turned, or rather thrown, for an instant to either side, or directly backwards; or, instead of the movement of the head, there may be convulsive agitation of some of the extremities. Another slight and partial form has its seat about the mouth and throat. The infant makes rapid, involuntary, and very imperfect movements of deglutition. The same is observed in cases of hysterical females, and indicates a slight degree of *globus hystericus*; this form of convulsion in infants is obviously identical, and sometimes becomes so much aggravated as to pass into the disease described under the name of *Asthma Koppii*, but often ceases without such transition. These, then, are slight forms of convulsion, often observed in delicate children a few days or weeks after birth, and proportionately more rarely as this tender age is passed. They seem to cause no particular annoyance to the patient, and are not necessarily followed by eclampsia. Any febrile affection, and even slight gastric derangement, is sufficient to induce these convulsive movements in very young children. The author has even observed them in cases in which no appreciable cause existed; and it seems to him that, soon after birth, the imperfect consolidation of the nervous system, whose paths of innervation have as yet been little used, may sufficiently account for the production of these irregular movements.

But the course of the disease does not always rest at this stage. These muscular movements, and the smile to all appearance so mild and innocent, often deceive the most intelligent of mothers, who, while loading with caresses the object of their affection, are struck with sudden terror on seeing the child's eyes diverted from their axis, drawn alternately upwards and to either side, till little but the white of the eyeballs is visible, the mouth twisted in various directions, the jaw in violent motion; presently head, trunk, and extremities becoming constantly and convulsively agitated—the hands hard closed—the face red and swollen, covered with abundant perspiration, while frothy saliva gathers about the lips.

The duration of such a paroxysm is uncertain—it may last for hours or even days; but in the latter case is almost invariably terminated by the death of the sufferer. In the majority of cases, however, after a few minutes the convulsive movements lose somewhat of their violence, and at last cease completely; but an infant, although saved for the moment, sometimes shows, after such an attack, symptoms of feebleness more or less considerable and lasting.

*Varieties.*—The fit, such as has been described above, is generally termed *eclampsia*. In its maximum degree of violence it is sometimes almost identical with epilepsy. There are, however, as we have remarked, various lesser degrees; such are likewise observed in the hysterical convulsions of females. We might, then, establish a great variety of degrees and forms of the disease under consideration; but the author only insists upon the following, which will be found practically important: eclampsia may be *idiopathic* and essentially nervous, or it may be *symptomatic*, and in this case almost always dependent upon one of the following causes:—Irregular dentition, gastric disorder, a paroxysm of fever, meningeal irritation, or hydrocephalus. It may either commence abruptly, as has been already said, or it may be preceded by spasms of the larynx, or by partial convulsions of the mouth, eyes, or extremities.

Abdominal and laryngeal spasm, as well as all forms and degrees of partial convulsion, seldom terminate fatally, without passing into eclampsia.

The termination of such a fit of eclampsia as has been described is very seldom

suddenly fatal; in a great number of instances the first fit, after lasting from five to twenty minutes, ceases, and is not repeated; or, if a second paroxysm takes place, it is milder, and neither injurious to life nor to the integrity of the functions. But if the convulsion lasts for several hours, or if, after the first attack, a second more violent and prolonged supervenes, death is to be dreaded. The author has also seen a number of cases in which infants, after violent convulsive fits of this description, remained sufferers from more or less complete paralysis of one or more limbs, generally on one side, though he has known the palsy to affect both superior extremities, and in a lesser degree one of the lower. These paralyzes have been very properly termed "essential" (Rilliet et Barthez)—i. e., purely nervous, produced by a simple exhaustion of nervous energy in some part of the spinal system. I am far from affirming that all partial paralyzes of infants have a purely nervous origin; but, undoubtedly, such is the pathology of most instances in which the palsy follows very violent convulsion fits of the description of eclampsia. I have had occasion to make post-mortem examinations in some such cases (the infants having died of other diseases), and to ascertain anatomically the absence of any inflammatory product, and of any material derangement in the brain or spinal cord, such as the eye could appreciate. Those paralyzes which succeed convulsions are almost always accompanied with some degree of spasmodic contraction of the flexor muscles of the extremities affected, especially the fingers.

The frequency of convulsions has, in the author's practice, appeared most considerable in the first month of life; from this period it becomes gradually rarer up to the fifth month, and then again more common up to the period when the incisor teeth make their appearance. After this age, the disease again becomes rare.

*Pathology.*—Dissections have incontestably established that, in the great majority of cases of convulsions terminating fatally, there is no cerebral or spinal inflammation, nor even evidence of active vascular congestion. This the author can state on the authority of a large number of observations furnished alike by his hospital and private practice. In general, he has found nothing, on examining the bodies of infants who have been attacked with convulsions, while their health in other respects seemed good, and succumbed after one or more paroxysms. Most of these patients were aged from one day to one month, or were infants feeble from the time of birth; there were, however, a good many, aged from five to ten months, who died after repeated fits of eclampsia, associated with symptoms of abnormal dentition, such as uneasiness, fretfulness, and diarrhoea, without other appreciable cause. Many in whom the convulsions seemed symptomatic of some abdominal affection, merely presented traces of intestinal lesions, or occasionally an enlarged condition of the liver. In some instances the author has obtained anatomical evidence of active cerebral congestion—well-marked capillary injection, without exudation. In those cases in which appearances of advanced inflammation, or well-marked exudations, have been observed, and in cases of simple hydrocephalus, in the course of which convulsions have come on, these spasms have not been the earliest symptom, nor have they usually been the immediate cause of death. An important practical deduction is, that the primary convulsions of infants are in the great majority of cases unconnected with inflammation. This fact is opposed to the therapeutical indications at present much in vogue among practitioners, and which lead to the employment of depleting and debilitating remedies in this disease.

*Predisposition and Causes.*—The most usual predisposing cause resides in the great nervous susceptibility of infants of tender age. The more feeble the vital powers, the more excessive is this susceptibility, and the more apt is the normal condition of innervation to become deranged. Hence the youngest and most weakly infants are the most subject to eclampsia; but, nevertheless, infants of very robust constitution do occasionally suffer. There is a special predisposing constitution, of which we have already treated under the head of laryngeal spasm—a constitution observed in infants of from five to fifteen months, and characterised as follows:—Disproportional size of the brain, retardation of cranial ossification, inflated abdomen, feeble and lean extremities, and imperfect muscular development. Such children are particularly subject to convulsions, and all

the more as it is just in such subjects that dentition is usually painful and irregular. Hereditary nervous disposition on the part of the mother also exercises its influence in rendering her offspring liable to eclampsia.

The occasional causes are various. While the spasm of the larynx is referable to a more special predisposition, and to a comparatively small number of occasional causes, eclampsia is induced in virtue of a far more general predisposition, and of exciting causes both numerous and of different nature. Thus the excessive nervous sensibility of an infant may of itself suffice to induce general convulsions. Cerebral inflammation, anæmia, a paroxysm of fever, the efforts of dentition, gastric derangement, or, in short, anything which can directly or indirectly exert an influence on the cerebro-spinal innervation, may cause eclampsia. The presence of worms may do so likewise; but the effect is almost always produced by the *ascaris lumbricoides*, and as this species is very rarely developed in the intestines of infants under three years of age, the convulsions of very young children are but seldom due to this cause.

The intimate nature of eclampsia we cannot understand till we shall become acquainted with the nature of the principle which operates and circulates in the nervous system. In the present state of physiology, we must content ourselves with stating, that eclampsia is the expression of deranged cerebro-spinal innervation. The author says "cerebro-spinal," because, although the abnormal muscular movements are undoubtedly immediately connected with the spinal system, yet the cerebral system is so linked with it and with the circulation of the nervous principle, that the innervation cannot be viewed as restricted to the former. Besides, practical observations easily convince us that some slight cerebral symptoms almost always precede the convulsions—symptoms of undue activity or weakness of the head, expressions of distress, of bad humour, &c. It cannot be doubted that the vitiated innervation constituting eclampsia may depend upon either an excess or diminution of nervous vitality. In many of the cases which the author has witnessed, infants of strong and even robust frame became, during the period of dentition, affected with general convulsions, while their nervous system seemed in a condition very different from that of the exhausted anæmic infants who are the more common subjects of the disease. In this point of view, then, laryngeal spasm is more limited in its range, being always connected with excess of nervous sensibility, together with feeble vegetative powers; but seldom, on the one hand, with vital and nervous exhaustion, and, on the other, hardly ever with a state of constitutional vigour.

**Diagnosis.** The differential diagnosis is in many cases difficult; and, nevertheless, it is important, for the purposes of treatment, to determine precisely whether the eclampsia which is witnessed is an idiopathic nervous affection, or symptomatic of some other disease. In the latter case, it should be ascertained whether the cause resides in some phlogistic or hydrocephalic head affection, or in gastric disorder. The attacks of idiopathic nervous eclampsia are usually very sudden, and not preceded by premonitory symptoms. If the infant present the appearances of the nervous disposition—if the skin and whole structure of the body be delicate—if there be a certain vivacity of deportment and movement—if, after the paroxysm, the child promptly regain its ordinary playful condition, there can be little doubt that the eclampsia is nervous and *idiopathic*. If there be repeated fits, separated by intervals of perfectly undisturbed health, the above diagnosis acquires absolute certainty. It is by no means necessary that such infants should be feeble and ill-made; in general, however, the brain or cranium is disproportionably large when compared with the face, which, like the extremities, has a delicate appearance. Nothing can be more pernicious than to treat such patients by applying leeches.

**Symptomatic** eclampsia is always preceded by signs of disease very various, like the affections which they indicate. The variety most apt to be confounded with the idiopathic, is that caused by abnormal dentition. It is generally said, that the painful efforts of dentition provoke active cerebral congestion; but this has not been shown by anatomical evidence to be a constant pathological fact. The author has seen infants of delicate frame who, at the period when dentition was commencing, presented symptoms such as these: uneasiness, bad humour, abundant salivation, frequent cramming of the hands into the mouth, and signs

of satisfaction when pressure or friction was applied to the gums; liquid stools, frequently even diarrhoea. In the midst of such symptoms they have been seized with eclampsia, which often proved fatal. Dissection in such cases has not even furnished evidence of that insignificant degree of hyperæmia so easily found during the last moments of life. But the author has seen other and very different cases of abnormal dentition. These were characterised by bad humour, appearance of extreme discomfort, swollen gums, and such tenderness that, far from bearing pressure, the child would not permit them to be touched; constipation, heaviness, and heat of the head. When, in such cases, death has followed a fit of eclampsia, post-mortem examination has almost always revealed well-marked signs of active cerebral congestion. Abnormal dentition, then, may have the character of *nervous* irritation or of *congestive* irritation, and consequently eclampsia from this cause may in its nature be purely irritative or congestive. Meningitic or hydrocephalic eclampsia is always preceded by the symptoms of disease of the meninges or substance of the brain. The author has never seen an instance in which these grave diseases have been ushered in by eclampsia as a first symptom.

Eclampsia is often occasioned by an acute febrile paroxysm, either rheumatismal, typhoid, or, above all, intermittent. This is most common in very young infants, when the attack of fever is sudden and violent. The author has seen very violent convulsions occur during the cold stage of ague, and only cease when sweating began. More usually, however, the convulsions only manifest themselves during the cold stage, which in infants rarely exceeds an hour in duration. The author recollects many such cases, which he has seen mistaken for meningitis, and treated by leeching, and in which, on the recurrence of the paroxysm of fever and convulsions on the third day, recourse was sometimes had to a repetition of the same depletory measures. Such mistakes must always be injurious, and may even be dangerous, for the next paroxysm will, after a debilitating treatment, be more violent, and the accompanying eclampsia more formidable. The author has even seen deaths thus occasioned; while if, after the first appearance of fever, recourse is had to quinine, fever and convulsions are disposed of together. It is true that every acute and violent fever is accompanied with headache; and as the headaches of infancy are with difficulty distinguished from meningitis, it is natural for a practitioner, through fear and doubt, to direct his treatment against meningitis when the diagnosis is uncertain. And it is impossible to compress within the limits of this article all the details of symptoms on which the differential diagnosis, when possible, is based. In general, however, the following points will afford some information:—The intermittent fever (rarely observed before the sixth month) is sudden in its invasion, and its first symptoms consist in lassitude and somnolence. The child becomes very pale, yawns, its hands are cold, its nails blue, the respiration much accelerated, and the pulsations very frequent. After fifteen minutes or half an hour, the whole body turns very warm, and the sweating, which supervenes in two or three hours, by and by restores the child to its former condition. Eclampsia, when associated with the paroxysm, seldom lasts more than half an hour. If, at the time of his observation, ague be prevailing epidemically, the practitioner will have acquired a valuable addition to his means of diagnosis. In general, whatever be the form of the fever accompanied with eclampsia, we ought not at once to make our diagnosis, and fulfil the supposed indication of treatment, unless the infant is plethoric, or at least very robust. When the paroxysm is at its height, whether it is rheumatismal or intermittent, the heat of the extremities and forehead is much the same; in meningitis (an affection far rarer than the idiopathic form of eclampsia or that associated with fever) the temperature of the hands and feet is almost always less than that of the head, and the pulse is not so frequent.

Eclampsia, symptomatic of gastric derangement, is always recognisable by the ordinary signs of this latter affection. An error sometimes committed, however, is the confounding of the symptoms of idiopathic gastrostosis with the gastric symptoms of hydrocephalus or encephalitis, such as vomiting and diarrhoea. In the latter case the abdomen is almost always soft and even depressed, while in cases of gastric disturbance an opposite condition is observed. Eclamp-



sia is far more commonly associated with constipation than with diarrhoea. It is seldom caused by worms before the age of three years; frequently between the sixth and twelfth year. The paroxysms, then, are in general short and not dangerous.

*Prognosis.*—The prognosis of eclampsia during or after the first fit is very uncertain. The younger and more delicate the child, the more considerable is the danger. At the commencement of dentition our prognosis should always be given with reserve. When, after the first fit, the child is well, or when there are perfect intervals between the paroxysms, even although these should be numerous, or if the general health of the child continues good, while neither the frequency nor violence of the fits becomes augmented, the prognosis may be more favourable. As for the prognosis of symptomatic eclampsia, it must be guided chiefly by the gravity of the concomitant disease.

*Prophylaxis.*—The prophylactic treatment must be conducted according to the principles already laid down under the heads of abdominal and laryngeal spasms. Means must be taken, by a suitable hygienic regimen, assisted, if need be, by the use of remedies, to ensure the regular development of the body and vital forces.

*Treatment.*—The treatment of eclampsia is very difficult, and must vary exceedingly according to the various occasional causes and primary diseases of which the convulsions are symptomatic. The practitioner meets with a similar difficulty in treating the hysterical convulsions of females. During the paroxysm medicine can do but little. In general there should be no haste in interfering, lest the interference should be hurtful. Many practitioners no sooner have a case of convulsions presented to them than they direct the application of leeches—the natural consequence of the general doctrine, that this neurosis proceeds from, or is conjoined with, congestion of the brain. The author's practice, which has been sufficiently extensive, has convinced him, that in the great majority of cases detraction of blood is useless and pernicious. He has explained his views on this subject under the head of *pathology*. He now opposes the indiscriminate application of the theory of congestion, and the corresponding use of leeches as a remedy in convulsions, having himself followed this practice for several years, and observed disastrous effects to result.

During the fit, if the child is feeble and anæmic, the author orders it to be placed in an inclined position, with the head downwards; if, on the contrary, it has an appearance of strength, the position of the head and trunk should be elevated. Gentle friction over the temples with aromatised vinegar, and the application of the same fluid to the nostrils, seem to exert sometimes a wholesome influence over the duration and violence of the fits. Enemata constitute a means of treatment which he never neglects. If the child be feeble and nervous, the lavement should be a warm infusion of chamomile flowers and valerian—if there be constipation, the warm infusion of chamomile, mixed with oil and sugar, may be employed—if there be flatulence, and more especially if the eclampsia has been preceded by abdominal spasms, an infusion may be substituted composed of chamomile and fennel seeds, with or without oil and sugar, according to the state of the bowels. If assured that there is no plethoric or congestive state of the encephalon, an attempt may be made to cut short the paroxysm by circular compression of the thighs. In weak infants the author has obtained evident advantage from this practice, though by no means uniformly.

Leeches are indicated when the child is robust, and has before the fit shown symptoms of cerebral congestion—such as heat and heaviness of the head. They may also be used in the case of a strong infant, when the fit continues, notwithstanding the use of a lavement, followed by the discharge of liquid stools. If there be signs of congestion from abnormal dentition, no time should be lost in making scarifications of sufficient depth upon the free margins of the gums.

Warm aromatised baths are decidedly useful in the idiopathic eclampsia of feeble anæmic infants; but in other conditions their effect is very equivocal—and if a robust child shows signs of the congestive form of difficult dentition,

or of vascular reaction before the paroxysm, it cannot be placed in a bath without danger.

When the fit is over, the treatment must be regulated by the idiopathic or symptomatic nature of the disease—due consideration being paid to the primary and exciting cause, if any such be detected. When the child is feeble and nervous, a tonic treatment and generous regimen are applicable, as we have shown when treating of laryngeal spasm. If no congestive state follows the fit, the author always orders a spoonful of infusion of chamomile with one or two drops of *sp. melissæ* and a drop of tincture of castoreum, and this dose he causes to be repeated every three hours. If the child be feeble, pale, and of lymphatic constitution, the author prescribes a mixture of *sp. melissæ* and *tinct. ferri æther.*, and directs two to four drops to be given thrice a day till such time as there is appearance of improvement in the constitution of the patient. Other stimulant and roborant remedies have not appeared to me to act so beneficially. Cod-liver oil may also be necessary to give an impulse to retarded nutrition. Washing or affusion with cold water is a remedy very generally applicable and efficacious. The dry atmosphere of situations of moderate elevation usually exercises a beneficial influence upon infants prone to convulsions.

On the employment of calomel the author offers a few observations, for it is, he believes, far too commonly used in the treatment of children's diseases. As an *antiphlogistic*, it is not a remedy whose action is clear and demonstrated by the comparison and severe analysis of facts; and eclampsia, it has been seen, is but seldom associated with a phlogistic diathesis—as a *purgative*, its action is too slow to be indicated in convulsions, and as an *alterative* (vague expression), its effects upon the nervous system are obscure. The author has often employed it, and without evident advantage, in cases of eclampsia; and now no longer exposes his patients to the risk of its pernicious influences upon the blood, the digestion, and the bones.



**REPORTS**  
**ON THE**  
**PROGRESS OF THE MEDICAL SCIENCES.**

*January—June 1851.*

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

# I.

## REPORT ON THE PROGRESS OF PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

BY THE EDITOR.

### PART I.—GENERAL PATHOLOGY.

#### § I.—Bibliography.

THE only books connected with Practical Medicine which have reached us since the date of our last Report are the following:

I. *A New Edition of Dr. Bird's work on "Urinary Deposits."*

II. *A concise Practical Guide to the Physical Diagnosis of Consumption.* By Dr. PAYNE COTTON.

III. *Medicines, their Uses and Modes of Administration.* 3d Edition. By Dr. MOORE NELIGAN.

IV. *Pharmacopœia Londinensis*, 1851.

V. *The Prescriber's Pharmacopœia.* 4th Edition.

VI. *Observations relating to the Art and Science of Medicine.* By Dr. WEGG.

VII. *Southern Medical Reports*, Vol. I.

VIII. *Transactions of the American Medical Association*, Vol. III.

IX. *Transactions of the Provincial Medical and Surgical Association*, Vol. XVII.

Of these the first five will be noticed in the several sections of this Report, to which they may with propriety be referred. The remainder we shall proceed shortly to introduce to our readers in the present place.

1. At a period which is so painfully distinguished by a scepticism on the value of medicinal agency, and by an overweening tendency to attribute every cure of disease to the inherent vitality of the frame, Dr. Wegg's volume\* will be read with interest, we hope, by far the larger section of the profession, inasmuch as the author attempts to rescue therapeutics from the charge of empiricism, by instituting a rational inquiry into the action of remedies. It would be too much to say that this difficult task has been accomplished altogether in a satisfactory manner; but the author has clearly appreciated the wants of the times; and thanks are due to him, as having set the example of studying the most important subject of the treatment of disease, instead of allowing himself to be arrested, as has been too palpable of late in the case of many writers, by the mere anatomical evidences of disordered action.

The contents of Dr. Wegg's volume consist of a general introduction and brief commentary on certain medicinal agents which he deems most important in the usual course of practice. These, he tells us, are treated of in an isolated manner; he makes no attempt to point out all their virtues and uses, but he

\* *Observations on the Science and Art of Medicine*, by William Wegg, M. D., Cantab. London, Churchill, 1851.

rather seeks to indicate the principles upon which they act, and by which our selection of them should accordingly be made. The remedies alluded to are, bloodletting, mercury, iodine, antimony, iron, colchicum, opium, hydrocyanic acid, and strychnine. There are, besides, two concluding chapters, on the Alimentary Canal, and on Support.

2. The "Southern Medical Reports," edited by Dr. FENNER, of New Orleans, consist of a series of sanitary, topographical, and other documents derived from the southern states of America. The volume contains a large amount of valuable information on most points which are interesting to the physician and medical philosopher; but we would particularise the reports on Cholera, as affording a most extensive as well as minute history of the late epidemic. We trust Dr. Fenner will meet with sufficient encouragement to enable him to continue the publication.

3. The "Transactions" of the American Medical Association, and of the Provincial Medical and Surgical Association, are worthy rivals in the race of medical improvement. Their plan is somewhat different, but each is well adapted to fulfil its intended objects. The present, the third volume of the American Transactions, contains Reports on Medicine, Surgery, and Obstetrics, together with others on American Medical Literature and Education, and on the Indigenous Botany of the country; besides narratives of isolated cases and modes of treatment. Some of the more interesting subjects appear as extracts in our present volume.

4. The *Transactions of the Provincial Medical and Surgical Association\** are so well known that we need merely announce the contents of the present volume, of some of which we shall give a more particular account in a future page. There are the "Retrospective Address, by Dr. Bell, on the Causes of Disease;" A valuable statistical Essay on the "Causes of Mortality after Amputation of the Limb," by Mr. James, of Exeter; An Essay on "Tuberculous Disease of the Kidney," by Dr. Martin Duncan; "On the Causes which excite and influence Respiration in Health and Disease," by Dr. Sibson; "A Case of Gangrene of the Lung," by Dr. Probart, (vide Art. 17); "A Case of Plastic Bronchitis;" and, lastly, a paper "On the Action of the Bronchial Tubes in Respiration."

## § II.—Diseases of the Blood.

5. *Disintegration of the Blood.*—Dr. Paxton, of Rugby,† has furnished a useful contribution to pathological hæmatology, in a paper in which he studies those groups of diseases which are characterised by a disturbance in the composition of the blood. On the present occasion he confines his attention to diseases in which one or more of the ingredients of the vital fluid is expelled, and mentions the expulsion of serum, in *Morbus Brightii*, as a marked example. The blood also loses its serum in diarrhoea and cholera. Limited collections of serum constitute his first series of disintegrations of the blood; the second shows a more unlimited exudation, as in general anasarca. A third series of cases, comprising diseases in which fibrin is extricated as well as serum. As an instance of this exudation, Dr. Paxton names cholera, in which the alvine discharges consist mainly of serum and coagulated fibrin. A fourth series is distinguished by the deposit as well as the exudation of fibrin. As an illustration of this series, the author adduces elephantiasis, and those remarkable tumours of the scrotum observed in tropical climates. Scirrhus tumours are also included by him in this series. When the exudation is pure fibrin, false membranes are often the result. A fifth series of disintegrated blood is that in which another ingredient escapes, viz. the globules, as in purpura scorbutus and typhus.

In conclusion, the author reminds the reader that his paper is intended

\* Vol. xvii. 1830.

† Provincial Medical and Surgical Journal, Jan. 8, 1851.

only to call attention to the importance of a study of the physical condition of the blood in disease. The subject has been closely investigated in France, but in this country as yet it has been but sparingly followed. We trust that the author's example will be of use in directing the attention of pathologists to a field comparatively uncultivated, but which promises a rich return of important results.

6. Another contribution to blood disease has recently been commenced by Dr. HUGHES BENNET, under the title "*Leucocythemia, or Blood containing an unusual number of colourless Particles*;"\* but as the essay is not yet completed, we must defer its consideration for a future volume.

7. *Tuberculosis*.—In continuation of his lectures on tuberculosis, noticed in our last volume, Mr. ANCELL proceeds to the consideration of the pathology of the skin and subdermoid cellular tissue, constituting the common diseased conditions known as scrofulous, and comprising various vesicular and pustular cutaneous eruptions, chiefly noticed in scrofulous children, together with inflammation and ulceration of the skin and deeper tissues. Tubercle itself, he informs us, is seldom deposited in the skin, but cases are on record, as, for instance, one by Mr. Crampton.

Next to the integument, the pathology of the mucous membranes is reviewed. The changes to which these structures are subject in tuberculosis are described as vascularity, irritation, inflammation, thickening, ulceration with or without tuberculous deposit, mammillation, softening, contraction, and perforation. The author takes the mucous membranes in rotation, commencing with the pituitary and ending with the genito-urinary.

The serous membranes, which are next considered, are made to embrace the synovial tissues. The appearances in tuberculous synovitis, as it often occurs in young subjects, are minutely described; after which the author enters upon the morbid anatomy of the true serous membranes. Acute pleurisy is mentioned as a very common occurrence in tuberculous subjects: in which case tubercles are found to exist with serous and fibrinous effusions. The pericardium is much more rarely the seat of tubercle. The peritoneum, like the pleura, is frequently inflamed in tuberculosis; generally the disease is chronic, but it is also not uncommonly acute. Tubercle is often found both in the serous membrane as well as in the adventitious membranes, the result of inflammation.†

8. *Chlorosis*.—In our last volume, we have given the researches of M. HANXON on the use of manganese in chlorosis, and stated his opinion that this metal may be made a satisfactory substitute for the ferruginous preparations. Since that publication the author has modified his opinions, to the extent of believing himself previously in error in thinking that metals were assimilated, and has developed a new theory of the disease. He observes:—"At one time, in common with other practitioners, I treated cases of chlorosis with iron and nourishing diet. Some got well; others were not the least benefited. I then gave manganese; and finding these rebellious cases improved, I attributed the change to the metal. My reasons for changing my opinion are these—

"A chlorotic patient, treated without effect with iron and manganese, got well after taking lead and copper; others recovered entirely under bismuth. In these the globulin was reproduced without an atom of iron or manganese."

From these facts, together with the results of other researches, the author has concluded:

1. That most aliments contain hæmatosine ready formed, or an analogous vegetable compound, and that all the iron and manganese of the blood is derived from this source.

2. That in the treatment of chlorosis it is important to choose those aliments which are rich in hæmatosine.

\* Edinburgh Monthly Journal, April 1851.

† Medical Times.

‡ Presse Médicale Belge. Revue Med.-Chirurgicale, Jan. 1851.



3. That during digestion, sulphuretted hydrogen is formed in the intestine, which reacts on the iron and manganese in the food; so that, if iron or manganese be not given previous to the repast, the sulphuretted hydrogen will decompose the hæmatosin of the food and extract the iron.

4. Chlorosis predisposes to the free formation of sulphuretted hydrogen in the intestines; whence, unless the metals be prescribed, the hæmatosin will be rapidly decomposed.

5. All metals capable of forming an insoluble sulphuret will equally prevent the decomposition of the hæmatosin, and will, therefore, be remedial in chlorosis.

The author, it must be stated, admits that his theory requires verification; and submits it, for this purpose, to the attention of practitioners.

9. *Rheumatism. In the Tropics.*—Dr. JAMES BIRD has availed himself of the extensive practical field of Indian experience, for observing and studying the different phases under which diseases of European climates present themselves within the Tropics, and among a class of patients of whom many subsist, almost exclusively, on non-azotised articles of diet, and all exist under very different circumstances, of either health or disease, from what are presented to our observation in this country.

In the present paper\* on rheumatism, published in the "London Journal of Medicine," (March,) he enters on a consideration of some important points relative to this disease, confining his observations to:—1st. Leading varieties of tropical rheumatism, and the particulars in which rheumatic inflammation differs from simple suppurative inflammation.—2d. Origin of the rheumatic diathesis, nature of the paroxysmal fever, accompanying articular inflammation, and causes which produce them.—3d. The general principles of treatment.

Tropical rheumatism presents two principal forms:—the stheno-phlogistic or acute; and the astheno-cachexial or chronic. The former in its attack of particular tissues, shows a preference for the compound membranes of a serous and mucous kind; the latter affects the muscular, nervous, and filamentous tissues, including the aponeurotic expansion of muscles, having much of a neuralgic character, and being accompanied by vitiated nutrition and wasting of the parts affected. The very acute variety, associated, as in Europe, with pericarditis or endocarditis, is seldom presented to observation in India. The astheno-cachectic varieties, associated with different forms of periostitis, having all the character of mercurial syphilitic cachexia, are peculiarly the produce of malarious districts. Several interesting cases of these different forms are given, in illustration and proof, that astheno-cachectic rheumatism, associated with arthritic periostitis, is a state of constitutional *cachemia*, more frequently developed among the natives of India, than among Europeans after mercurial treatment. The proclivity of native constitutions to this form of disease is said to arise from the more general use of non-azotised articles of diet by the natives than by Europeans, giving to the former less vital power of resistance to the destructive metamorphoses of the tissues brought on by cold and abused courses of mercury.

After some brief remarks on the relation between the milder degrees of scorbutus and the astheno-cachectic form of rheumatism, Dr. Bird proceeds to inquire whether the phenomena of rheumatism be identical with those of inflammation and the plegmasiæ? In reference to this point, he agrees that rheumatism generally presents quite as much of the character of the *neuroses* as of the *phlegmasiæ*; and though evidence be not wanting, to prove that acute articular rheumatism sometimes terminates in suppuration, and purulent effusion into the joints affected, still rheumatic inflammation differs from simple inflammation, inasmuch as it proceeds from a specific cause, and is associated with greater abnormal sensibility of the nerves.

Regarding the origin of the rheumatic diathesis, rheumatism is considered

\* The Characteristic Peculiarities, Pathology, and Treatment of Rheumatism, more particularly as it prevails in the Tropics, by Dr. James Bird.

as the result of that pre-existing lesion of the assimilating and excretory organs of the body, which, on the application of cold, errors of diet, intoxication, malaria, and like exciting causes, gives rise to that abnormal change of the blood which constitutes the rheumatic diathesis. Sometimes the blood seems altered previous to the appearance of swelling and local rheumatic inflammation; but, occasionally, where the disease is produced by cold acting on constitutions little or not at all disposed to rheumatism, the altered condition of the blood probably follows the development of the local affection. In either case, the heightened metamorphic power of the blood globules gives rise to a greater relative formation of *fibrin* and progressive diminution of *hæmato-globulin*, as they occur in rheumatic fever and its consequences. The natural tendency of rheumatism is to *anæmia* and to the production of phenomena, depending on a diminution of the blood globules, as lately prominently noticed by Dr. O'Ferral.

Passing over the author's description of the anatomical seat of rheumatism, we come to the treatment, on which subject Dr. Bird says:—The general therapeutic principles to be followed, in attacks of Tropical and European rheumatism are:—1st. To subdue constitutional irritation and fever by narcotics and refrigerants.—2d. To eliminate from the system the retained cholæic elements and other excrementitious matters of the blood, which render the urine acid, and occasion its lithic deposits.—3d. To restore the conditions of normal nutrition by suitable diet in the sthenophlogistic kind; and by iron, cod-liver oil, and tonics, when the rheumatic symptoms are associated with *cachemia*.—4th. To subdue local symptoms of swelling and pain by leeching, cupping, and blisters, followed by anodyne applications, or local anæsthetics.

In order to fulfil the first indication, which is the principal and leading one, in cases of the sthenophlogistic kind, much professional discussion and difference of opinion have arisen regarding the efficacy and propriety of general bleeding, as one of the means. The extent to which this remedy may be usefully employed, will depend much on the youth and naturally plethoric constitution of the patient. In a general inflammatory diathesis, therefore, the propriety and efficacy of general bleeding are fully established by our own experience, and recommended by a host of unexceptional authorities. But the natural tendency of rheumatic inflammation and fever, being to produce *anæmia*, we must not be too prodigal in wasting the nutritive resources of the constitution; and should be guided, in repeating the bleeding, according to the quantity and inflammatory firmness of the blood-clot, and the effect which the first bleeding may have had in subduing irritation and mitigating fever. The necessity of general bleeding, in tropical rheumatism, is rather an exception than the rule, as might be expected from the comparatively mild character of its fever and inflammatory symptoms.

Of medicines best adapted to carry out the second indications, calomel and Dover's powder at bedtime, followed next morning by a solution of sulphate of magnesia in compound senna infusion, with the addition of an alkali and colchicum, will be found among the most useful. Much misapprehension regarding the beneficial therapeutic action of the latter medicine seems to exist; some deeming its chief efficacy consists in its power of eliminating urea and uric acid from the system; while others deny to it any efficacy in subduing symptoms of true rheumatism. Dr. Bird states that it is chiefly useful in cases of the acute disease, accompanied by a foul-loaded tongue, biliary derangement, and intestinal mucous accumulation. Both his Indian and European experience has convinced him of the fact, that without its purgative effect being induced, the urinary secretion is seldom so much increased in quantity as to bring with it any considerable relief of rheumatic symptoms. The most beneficial mode of administering it in India, is to give the wine of colchicum twice or thrice a day, in a weak solution of tartarised antimony, along with liquor potassæ, and tincture of the hydrochlorate of morphia. Free action of the kidneys and skin is thus kept up, and the feverish frequency of the pulse reduced; but even in such a case, the use of purgatives and the elimination of the biliary secretion must not be neglected or lost sight of.

In reference to the employment of calomel, Dr. Bird thinks that it should be given with a view of obtaining its full purgative effect, in cases of the sthenophlogistic kind.

phlogistic variety, rather than its constitutional effect. From its special action on the biliary organs, he considers it is in Indian rheumatism an invaluable remedy.

The third indication has more immediate relation to cases of the asthenocachexial kind than to those of acute rheumatism. The impaired state of the digestive function being so intimately associated with the origin and progress of the rheumatic constitution, it is of much importance, while carrying out the second indication, in acute varieties of the disease, that due attention should be given to the diet of the patient, which must be diluent and of easy assimilation. In the early stage of disease it should consist of gruel, thin arrow-root with milk, or weak broth, and if beef tea be allowed, it may be given with the addition of twenty or thirty drops of liquor potassæ; the alkali serving to neutralise the lactic and other acids which accumulate in the stomach along with diseased mucous secretions. As phlogistic symptoms, even in the worst examples of acute Indian rheumatism, are associated with much destructive irritation and waste of tissues, the author tells us that a too active or injudicious employment of the diaphoretic and purgative treatment must be avoided, as such will both derange the primary and secondary assimilation. Such derangement is marked by emaciation, loss of strength, pale anasarcoous visage, and other signs of cachexia; and as the early appearance and rapidity of such symptoms are most remarkable in persons inclining to the leuco-phlegmatic temperament, the treatment for carrying out the previous two indications, should not be such as makes too great a demand on the resources of the constitution.

When cachexia appears, we must have recourse to bark, sulphate of quinine, preparations of iron, or iodide of potassium, all of which operate beneficially on the constitution, by improving the tone of the organs of primary assimilation, modifying the nutrition of the tissues, and increasing the *hæmatine* of the blood. A combination of these several remedies may be necessary, according to the nature of particular cases; and where iodide of potassium, if given alone, would utterly fail in relieving symptoms, it may be usefully employed in combination with the bark or sarza decoction, or extract of taraxacum, by which the double effect of healthy cutaneous action and increased elimination by the kidneys may be generally secured. The iodide of potassium must not be given in large quantities; but along with it, laxatives are as essential as in using colchicum. In many such cases, the compound decoctions of sarza, to the extent of at least half-a-pint twice daily, with an equal proportion of warm milk, has been found to be of much utility in promoting the nutrition of the tissues, and bringing back healthy cutaneous action. The extract of sarza in pills, with resin of guaiacum and sulphuret of antimony, may be given advantageously with the same object; care being taken to supply the patient with light, easily-digested elements of nutrition. Among such elements, we may mention cod-liver oil, which, in two cases, when prescribed in the country, proved of much benefit. One of these was a case of excruciating periostitis, affecting the aponeuroses of the cervical vertebrae, and accompanied with neuralgia of the superior maxillary branch of the fifth pair of nerves. The other was hysterical neuralgia of the intercostal muscles. In both cases counter-irritation was employed, by means of a liniment of oil and turpentine, with pyroligneous acid over the pained parts; and in the former, the oil was given along with the extract of Aconite at bedtime.

The last and fourth indication, is to employ remedies suited to subdue the pain and swelling of the local affections. If such are of a muscular kind, strongly stimulating terebinthinate liniments, warm fomentations, and shampooing of the parts, will be found beneficial in relieving pain; but in some cases, such was its severity and persistence, that the patients were relieved by nothing except the abstraction of blood from the parts, by means of cupping glasses. When the joints suffer, and are much pained and swollen, we found no local application more useful than leeches, and repeated blisters to the parts. If the latter be employed, the blistered surface may be dressed with an ointment containing small quantities of the hydro-chlorate of morphia, or extract of belladonna; the application also of a wet bandage, saturated with a lotion of camphor mixture, wine of colchicum, and tincture of the hydro-chlorate of

morphia, covered over by cotton wool, and a piece of spongio-pilino to prevent evaporation, will be found of much utility. Others have of late recommended for the same purpose a chloroform lotion, or one of Dutch liquid, stating such to be of great utility in relieving the pain and swelling of the joints; but though we have had no experience of their efficacy, they appear well calculated to fulfil the same intentions as other like remedies, which have been long in use. More might be said as to the greater or less efficacy in rheumatism of special remedies; but as we place little faith in such, when used without discrimination, we defer any such remarks to a more fitting opportunity, the great object of this paper being to delineate the leading characters of rheumatic disease, and the therapeutic indications most applicable to each.

10. Among the auxiliary remedies for the treatment of rheumatism recently recorded, are terebinthinate vapour baths, much vaunted by M. CHEVANDIER,\* and the local application of anæsthetics, by Dr. ARAN.†

M. Chevandier was indebted for his notice of the turpentine baths to the practice of the pitch boilers in his vicinity, who, when affected with rheumatism, were accustomed to expose themselves to the vapours of boiling pitch. He gives some striking instances of the value of the treatment.

Dr. Aran's treatment consists in applying compresses of hydrochloric ether. This he does to every joint in succession, as it becomes affected, and continues it till the rheumatism disappears. He has submitted 19 patients to this method, 17 of whom were subject to acute rheumatism, the other two of the chronic form. The results were rapid subsidence of pain; so much so, that the patients, previously afraid to stir, were able to move their limbs freely.

[Although M. Aran lays great stress on this treatment, in many of his cases employing no other, we cannot conceive, that in acute cases, it can be otherwise than a palliative, and in nowise supplementary of the ordinary mode of management.]

### § III.—Zymotic Diseases.

11. *Vaccination and Revaccination, existing state of knowledge on.*—This is the title of a comprehensive essay by Dr. ALEXANDER KNOX, published originally in the "London Journal of Medicine," (Nos. 23 and 24,) and subsequently in a separate form. The essay commences with a history of the introduction of smallpox; the first practice of inoculation; and the discovery by Jenner of the protective power of vaccination. The latter is a question of the utmost importance and meets with a corresponding close investigation by the author.

The evidence in favour of this protective power, is arranged as follows:

1. Popular experience as to the immunity of those who have casually contracted cowpock, from the cow, horse, or camel.
2. The identity of cowpox, and smallpox, an argument in favour of the protective power of the former.
3. Testimony in favour of the protective power of vaccination. Speaking of this, Dr. Knox observes, that this is almost universal up to the present day; but that the actual extent of this protection is only to be decided by a rigid inquiry into actual results. The evidence as to the actual results of vaccination is, he considers, the only conclusive method of determining the true value of cowpock. This goes to show that the idea of absolute protection on all persons for their lives is untenable; but that when smallpox does show itself after vaccination, it is in a greatly ameliorated form, which he proceeds to describe. The absolute amount of protection afforded will be greatly, he observes, in proportion to the perfection of the vaccination, and any value which may be attached to the evidence afforded by the Prussian and other vaccinations, must necessarily be dependent thereon. Hence it becomes important to have a test of effective vaccination; of such tests he enumerates four. Bryce's test; the cicatrix; inoculation and revaccination, each of which he considers in turn,

\* *Revue Med.-Chirurgicale*, Jan. 1851.

† *Archives Générales*, Jan.

deciding that after all the most certain test is the regular progress of the vesicle, without attendant symptoms, through all its stages.

In returning to the main question Dr. Knox remarks, that the protective influence of vaccination has been advocated on the following grounds. 1. The power which it confers of resisting the contagion of the casual disease. 2. Of resisting variolous inoculations. 3. Of resisting the effects of revaccination.

The evidence in favour of the former position, as adduced by the author, is both extensive and conclusive, the second is less clearly established. As regards the third position, it would appear from the statistics of the Prussian army, that one half were insensible to a second vaccination, while another fourth took it imperfectly.

Dr. Knox next considers the causes of failure in vaccinating, and speaks among these of careless operating, and the employment of unsuitable virus, either from its being taken too early or too late; the author's own practice is to take it on the eighth day.

Many German writers, and among them Heim, maintain, that the result of vaccination is materially influenced by the number of punctures. Some even in this country are not satisfied, unless some degree of constitutional irritation is produced. Dr. Knox decides, and we believe correctly, that one perfect vesicle affords as much certainty of protection as a dozen.

It is asserted by Dr. Gregory, that the number of punctures should have reference to the energy of the virus, which he thinks is less active, after repeated transmissions through the human subject, than when more recently derived from the cow, one vesicle with the latter being in his opinion equivalent to five or six with the other. These views are contested by the author, who considers that the deterioration of lymph by human transmission is a mere hypothesis. Dry lymph may, in the author's opinion, be an occasional cause of failure of the operation, but for the most part it is, when carefully preserved, fully efficacious. The age at which a child should be vaccinated is a subject of difference among writers. Heim pronounces for the lapse of a year. Gregory advises the third or fourth month. The balance of opinion is in favour of the latter period; unless smallpox prevails, when it is not advisable to postpone vaccination.

In reference to the necessity for revaccination, the author states that he considers a fresh examination to be requisite; he, however, believes, that the frequency of smallpox after vaccination has been greatly exaggerated; and that at any rate the mortality in postvaccine smallpox bears no comparison with that of the disease in the unprotected.

Dr. Knox now proceeds to discuss the various remedies against the occasional failure of vaccination, such as variolous inoculation; fresh lymph from the cow; increased number of vesicles; and revaccination at stated intervals. Referring to renewal of lymph from the cow, he informs us of the great importance of recognising the genuine from the spurious pock, of which there are, according to Heim, no less than eight varieties. On this subject he refers to the excellent writings and experiments of Mr. Ceely, of Ailsbury.

With respect to revaccination, the author demands whether this is necessary where there is evidence of the primary operation having been effectually performed? and if so, at what intervals. On the first question the author is disposed to reply in the negative. In his opinion, the progressive extinction of the protective influence of a fresh vaccination is open to dispute, and that the results of the German revaccinations admit of a different explanation to that usually given. He, however, by no means discountenances revaccination, but on the contrary advises it as a safe precaution. The interval at which it is to be recommended must vary with the condition of the patient, and the presence or absence of a variolous epidemic.

In conclusion, the author recapitulates the chief practical deductions which are to be derived from his essay. These are as follow:—

1. It appears to have been satisfactorily demonstrated, that secondary vaccinations have succeeded in a considerable proportion of the cases in which they have been resorted to.

2. It also appears, that smallpox has prevailed of late years to an increased extent.

3. The results in question have been attributed, partly to a diminution of energy in the vaccine infection, caused by repeated transmission through the human subject, and partly to an alleged tendency in the immunity conferred by cowpock to wear out of the system, after an uncertain period from the date of vaccination.

4. Both the success of revaccination, and the increased prevalence of casual smallpox, appear, however, to have been exaggerated in the popular belief; and, at any rate, the facts seem explicable, in a great measure, without resorting to the hypothesis just stated, by attributing them in part to the imperfect performance, or the entire neglect of vaccination, in part to that temporary tendency to increased diffusion, at distant and uncertain periods of time, which characterises all epidemic diseases, and, finally, to peculiarities of constitution, which render many individuals absolutely insusceptible of being protected against a secondary attack, either by vaccination or by inoculated or natural smallpox.

5. It has been proposed to re-introduce variolous inoculation as a certain remedy for the occasional failure of vaccination; but the superior efficacy of the practice is not only questionable, but its indiscriminate employment has been proved to be dangerous, and destructive of human life, and is therefore highly to be deprecated.

6. Revaccination, however, may be prudently recommended, not only as innocuous in itself, but also, on various grounds, as positively advantageous, even by those who question the gradual extinction of the protective influence of cowpock.

7. It does not appear that genuine vaccination has lost any of the efficacy, which at any time really appertained to it; and it still remains to be demonstrated, that it is not capable of conferring, to the end of life, complete immunity from the horrors of smallpox, on a large majority of all the individuals fully submitted to its influence.

8. Even where vaccination fails to prevent a secondary attack, the consecutive disease, in general, assumes a mild and modified form, although, in some instances, it may be sufficiently severe to leave the countenance marked with scars, and still more rarely to terminate in death; but fatal cases from secondary smallpox do not seem to be more frequent after vaccination, than after a primary attack of the natural disease.

9. On the whole, it is respectfully maintained, that cowpock, imparted in the most efficient manner of which it is capable, by vaccination, and, under certain circumstances, by revaccination, is the most eligible safeguard, within our power, against smallpox; and that it would prove effectual in most constitutions, not inherently insusceptible of protection.

12. *Exanthematic Relationship.*—In the essay above noticed, the author admits throughout the identity of cowpox and smallpox. This view, though it has the support of Mr. Ceely's experiments, and through them of a large section of the profession, is disputed by Dr. Gregory.\* This author, whose extensive experience entitles his opinion to respect, argues for the *alliance* of the two diseases, but repudiates their identical nature. To illustrate his views, he cites some examples from chemistry, as the various compounds of nitrogen and oxygen, which, though cognate, cannot strictly be termed identical; so also in the case of calomel and bichloride of mercury. "It requires no great stretch of imagination," he says, "to suppose that, as in the above analogies, the exanthematic miasm, so widely disseminated, is composed of several ingredients, which, variously combined, appear in the several forms of smallpox, cowpox chicken-pox, sheep-pox, and equine grease; while other elementary changes convert the miasm into that of measles, scarlatina, the pestes bovina, or the canine distemper." It is not improbable, continues Dr. Gregory, that even Asiatic

\* Medical Times, Jan. 18, 1851.

cholera may one day assume features which shall cause it to be classed with the exanthemata.

13. *Smallpox after Vaccination.*—Dr. WEBSTER records the rare instance of smallpox recurring a third time after vaccination. The person alluded to was vaccinated at three months old, in 1827. The first attack of smallpox took place in 1833, together with another brother. Both were the second time the subjects of the disease in 1838, and the first was attacked a third time recently in India, and fell a victim to the disease.\*

—A case of smallpox after a third vaccination is reported in the same journal, by Dr. A. P. STEWART. An animated discussion followed the reading of the cases, the most interesting portion of which consisted in the remarks by Dr. Gregory, announcing his opinion that vaccination or revaccination offered comparatively little protection after puberty; but that at this time inoculation was requisite to insure immunity.

14. *Scarlatina.*—In the Report on Epidemic Diseases in the last volume of the Transactions of the American Association,† the efficacy of chlorine is much commended. The best form is  $\frac{3}{4}$ ss of Labarraque's chlorinated soda, to  $\frac{3}{4}$ vj of water, a table-spoonful of which is a dose for a child, three or four times a day.

The reporter considers that too little attention has been paid to the prophylactic virtues of belladonna. He speaks of having tried it extensively, and mentions in particular a family of eight children, one of whom falling ill with scarlatina, the rest were treated by belladonna, and allowed unrestrained communication with the patient, without the disease being contracted in a single instance.

—A comprehensive essay on the forms, symptoms, and treatment of scarlatina will be found in the "Philadelphia Medical Journal," by Dr. MORRIS.‡

15. *Fever.*—The contributions in reference to typhus fever are few and unimportant. The only one of more than ordinary interest is a paper by Dr. M'GRIGOR, in which he calls attention to the state of the bladder, as a point in the necrology of the disease but little noticed. As the result of his inspections, he finds that there was simple congestion of the bladder in 10 cases, ecchymosed spots in 7, ulceration in 6, and congestion in the ureters and pelvis of the kidney alone in 2, (total, 25.) The author does not find similar appearances in other diseases, and therefore agrees with Rokitansky that it is a typhus process, and bears the same relation to typhus as ulceration of Peyer's glands does to typhoid fever.§

16. *Hydrophobia.*—Three or four cases of this fearful disease have been recently recorded by Drs. SIDNEY, JAMES STRUTHERS, and REDFERN. The anatomical investigation was in all as unsatisfactory as the treatment was unavailing. A French physician professes to have cured himself by a vapour bath at a high temperature.

## PART II.—SPECIAL PATHOLOGY.

### § I. Diseases of the Nervous System.

17. *On the threatenings of Apoplexy and Paralysis, &c.*—In the Croonian lectures for the present year, Dr. MARSHALL HALL has taken for his subject the threatenings of apoplexy and paralysis, showing the paroxysmal nature of their affections, as well as of those to which they are allied. Every practitioner of experience has met with cases in which the symptoms of apoplexy and paralysis are but momentary, passing away almost as rapidly as they ensued; and others

\* Medical Times, March 8.

† Feb., March, and April, 1851.

‡ Vol. iii.

§ Medical Gazette, March 7.

which, though fatal, leave no trace behind them. Such cases are noticed by Abercrombie, who is quoted in the commencement of the first lecture. The usual explanation of these attacks is that of "determination to the head," a term which the author utterly rejects. The true explanation, in his opinion, is to be sought in the venous circulation, a suspension of which is effected, whether under the influence of emotion, or some eccentric cause, by contraction of the muscles of the neck (trachelismus), causing pressure on the jugulars. That this pressure does exist the author next shows in the consideration of some of the phenomena of apoplexy, such as lividity of the face, and suffusion of the eyes. It is also illustrated by the effects of a tight collar. The enunciation of this theory of all paroxysmal cerebral affections appears to be the main object of these lectures, which are, it may be stated, delivered, as is usual with the author, in a style which precludes a condensed analysis; we can, therefore, only commend them to the reader's attention, informing him that they are published in a separate form.\*

18. *Cerebral Disease.—Connection of Symptoms and Lesions.*—In Art 9 of the present volume, we have given the remarks of Dr. H. Bennet on the symptomatology of disease of the brain; we have now to notice an essay of M. ALQUIÉ, which, however, will not bear comparison, either in logical deduction or in reference to the author's acquaintance with the present state of our knowledge with regard to the physiology of the nervous system. Many of his deductions, it will be seen, are gratuitous assumptions, while others are in direct opposition to physiological data. The author's conclusions in reference to the connection of symptoms with lesions are thus stated:—

1. In reference to the *Intelligence*: The intelligence is little affected in disease of the centrum ovale, the corpus striatum, the optic thalami, the tuber annulare, the fornix, cerebellum, or medulla oblongata.

2. *Delirium* is the consequence of affection of the convolutions. It is seldom present in meningitis, or injection of the base of the brain. Neither is it a symptom of disease of the ventricles, centrum ovale, tuber annulare, or cerebellum.

3. *Coma* frequently depends on suppurative meningitis of the convexity of the brain, as well as of the base. It may also arise from distention of the ventricles by serum, from a tumour, or in fact any cause which induces compression of the cerebral substance.

4. *Speech*. The speech is embarrassed or lost in disease of one or both anterior lobes, as well as in affections of the cerebral centres, of the upper portion of the corpora striata.

5. *Headache*, is an indication of some affection of the membranes; but may be a symptom attending disease of any portion of the central mass.

6. *Special Senses*. Vision is enfeebled or lost in disease of the optic lobes or parts immediately adjacent. Hearing suffers when those parts of the brain are involved, from which the auditory nerve takes its origin. There is no precise knowledge regarding the lesions which influence the taste and smell. In every lesion of the brain, when there is not convulsion, the tongue is protruded towards the paralysed side. The facial muscles are paralysed on the same side as the extremities.

7. *Convulsions* are the result of injection of the cerebral substance, and when they occur during the course of meningitis, indicate that the surface of the brain is involved. *Contraction* of the limbs points out active congestion of the cerebral matter round some organic lesion.

8. *Motility*. Organic disease of the cerebrum and cerebellum may exist without any disorder of the muscular movements; but such cases are exceptional. Hemiplegia is the result of disease of the opposite hemisphere. Paralysis of both sides indicates disease at or in the centres of the encephalon, as the tuber annulare, tubercula quadrigemina, &c. Paralysis of one arm is an

\* On the Threatenings of Apoplexy and Paralysis, Inorganic Epilepsy, Spinal Syncope, Hidden Sources, &c., by Marshall Hall, M. D., F. R. S. Pamphlet.



evidence of a circumscribed lesion of the brain, as paralysis of one leg is of the cerebellum. Excitation of the genital organs depends on disorder of the middle lobe of the cerebellum.\*

19. *Cerebral Tumours*.—Four cases of cerebral tumours are related by Mr. KESTVEN, mainly with the object of insisting upon the well-known fact, that these growths may arrive at a considerable size, without giving rise to symptoms diagnostic of their presence.† [This apparent anomaly becomes explicable on the consideration that the cerebro-spinal fluid is displaced in exact proportion to the increase of the foreign body, and therefore, that undue pressure is prevented. It is in tumours of slow growth only, which push on one side without disorganizing the central fibres, that the absence of symptoms is observed.]

20. *Epilepsy*.—We hear nothing more of the vaunted powers of the cotyledon in this disease, but we have the revival of an old remedy in the narcissus, by MM. MICHEA and PAVOR, both of whom record cases said to have been cured by it.‡

21. *Delirium Tremens, state of the Urine in*.—M. MICHEA has remarked, that in delirium tremens the reaction of the urine differs widely from that of health. In the healthy state, on the admixture of caustic ammonia, the urine becomes milky and opaque, and deposits the phosphate of ammonia. With oxalic acid an abundant precipitate of the oxalate of lime is formed. In cases of delirium tremens no such phenomena occur. So long as the cerebral disturbance continues, neither of the above reagents cause any opacity in the urine; but as soon as convalescence commences, precipitates appear. From these data he establishes the two following propositions: 1. The phosphates are diminished in delirium tremens. 2. The return to the normal condition of the urine as regards the phosphates, is one of the critical signs of the disease.

M. Michea asks whether these facts throw any light on the etiology of delirium tremens; but at present does not reply to the question. He thinks, however, that the facts may offer some indication for treatment, in the suggestion of allowing animal food as the chief source of the phosphates. The absence of these principles from the brain, he explains by the fact that drunkards have habitually bad appetites, and that when delirium ensues they frequently abstain from food, and especially animal food, for days. They thus deprive themselves of the source whence the phosphatic elements of the urine are derived.

[It is but justice to Dr. Bence Jones to state that he has long anticipated the observations of M. Michea as regards delirium tremens; but he has shown, as far as our memory serves us, that a deficiency of phosphates in the urine is also observed in other diseases of the nervous system, which, if correct, would militate against M. Michea's theory of the cause of their deficiency.]§

22. *Heart Disease and Rheumatism. Association of Chorea*.—The connection of chorea with rheumatism and disease of the heart has recently been made the subject of a work by M. SÉE.|| The author commences with the anatomical characters of the disease, giving the following results of his inquiries:—

In 84 examinations, he found isolated or simultaneous serous inflammation, as pericarditis, cerebral and spinal meningitis, &c., in 37; from this he derived his opinion of the rheumatic character of the disease in the larger number of instances, though he admits a rarer and purely nervous form of the malady. Omitting his chapter on the symptoms, we pass to that which forms the principal feature of the book, namely, the coincidence of chorea with other diseases.

He first speaks of intercurrent febrile affections, and denies the fact that fever dissipates the choreic convulsions. On the contrary, it increases them;

\* Gazette Médicale de Montpellier.

† Medical Gazette, April 18, 1851.

‡ Révue Médico-Chirurgicale, Mai 1851.

§ Ibid.

|| De la Chorée; Rapports du Rheumatisme et des Maladies de cœur avec les Affections Nerveuses et Convulsives. Paris, Baillière, 4to. pp. 160.

but he has observed, that on the cessation of the fever, the movements disappear likewise.

In now speaking of the connection of chorea with rheumatism, M. See mentions that of 128 cases of the former, there was a coincidence of rheumatism in 71; and again in the rheumatic cases admitted into the *Hôpital des Enfants Malades*, chorea existed in the proportion of 61 to 43.

In the appreciation of the coincidence of the two diseases, he acknowledges that he has been preceded by Copland, Bright, Babington, and other English authors.

Having spoken of the connection of rheumatism and chorea, the author next alludes to the influence of certain cachexiæ and nervous conditions of age, sex, disease of the skin, &c. &c. He also devotes a large space to prognosis and treatment.

—Dr. KIRKES has also thrown some light on this well-known association of diseases, in a paper which appears in the "*Medical Gazette*."\* He appears to doubt the usual opinion that the nervous affection is essentially connected with disease of the pericardium, from two circumstances: first, that chorea sometimes occurs during rheumatism, without the occurrence of any heart complication; and secondly, that chorea is sometimes the first in the chain of events, the rheumatism and cardiac disease being superadded. These facts, he remarks, favour the theory advanced by Dr. Begbie, that the same diathesis which gives rise to rheumatism, may also give rise to chorea; but he thinks that there are other interesting facts which help to a better understanding of the association in question. To assist in the investigation, Dr. Kirkes has tabulated 36 cases of chorea, from an analysis of which it appears that the disease was associated with rheumatism in 33, while in the remaining three there was cardiac complication without affections of the joints.

In reference to the number of cases in which disease of the heart occurred, Dr. Kirkes assures us, that of 28 cases in which the fact is noticed, the heart was affected in all but two. From this large proportion, he observes that it is clear that the heart affection has an important share in the development of the nervous phenomena; but that the two exceptions equally prove that the cardiac complication is not an essential element in their production.

In examining the nature of the cardiac affection in the twenty-six cases in which the heart was said to be diseased, the author finds in

10 cases, effects of both endocarditis and pericarditis.

11 cases, effects of endocarditis alone.

5 cases, effects of pericarditis alone.

The endocardium, therefore, presented evidences of disease in no less than twenty-one out of these twenty-six cases, the pericardium only in fifteen. Therefore, if the mere weight of numbers might determine whether affections of the endocardium or of the pericardium were the most likely to be associated with symptoms of chorea, the verdict would be in favour of the former. And such verdict may, the author thinks, be substantiated by several other not unimportant particulars; for, having found the endocardium affected in so large a proportion of these cases, we may be led to inquire whether there is any reason for believing that it might have been affected in the remaining five cases also. In one of these cases the mitral valve was said to be "somewhat thickened;" in the remaining four the condition of the endocardium is not named, and therefore, perhaps, it ought to be inferred that it was sound; but when it is remembered how slight the effects of endocarditis frequently are, consisting only of a few minute beads of lymph along the borders of one or more valves, which might be easily overlooked after death, while their auscultatory signs during life would be masked by those of the pericarditis which existed in all the cases, and that in the fatal cases attention would probably be directed chiefly to the extensive disease presented by the pericardium, especially in cases 1 and 3, which occurred at periods (1821 and 1824) when the appearance of minute granules on the valves of the heart would have attracted much less attention

than at the present time, and if seen, might have been deemed unworthy of note—we may conclude that the non-existence of endocarditis is at least not proved in any of these cases. We might, indeed, he observes, go even further than this, and conclude, not unreasonably, that the endocardium was probably affected in one or more of them, remembering “that pericarditis is more frequently found in combination with endocarditis than alone.” Should it be thought that, by parity of reasoning, the absence of pericarditis in those cases in which its existence is not stated, ought to be considered as also unproved; the likelihood of the disease being overlooked, either before or after death, is so much less in the case of pericarditis than of endocarditis, that, in the author’s opinion, this mode of reasoning could have but little weight.

“Since, therefore (he continues), we have tolerably strong proof that the endocardium was affected in twenty-one out of the twenty-six cases in which the condition of the heart was stated, and some reason for believing that it might be affected in some of the remaining five; while, on the other hand, we have proof of the pericardium being affected in only fifteen, and no positive reason for believing it to be affected in the remaining eleven—we are, I think, justified in concluding that of the two diseases the affection of the endocardium is more closely associated with the development of nervous phenomena in acute rheumatism than is affection of the pericardium. Such conclusion naturally leads to the supposition that the cardiac murmurs, so frequently heard in cases of chorea unassociated with rheumatism, may also be dependent on some organic disease of the interior of the heart, ‘an insidious endocarditis affecting the mitral valves,’ and that such a morbid condition may have an important share in the production of the choreic phenomena.”

Whatever may be the immediate exciting cause which calls the nervous phenomena into existence, Dr. Kirkes sees sufficient reason for believing that in most of the cases in which such phenomena arise there pre-exists a peculiar proneness to the development of nervous disorders, and that the rheumatic or cardiac affection occurring in persons possessed of such an evidently irritable nervous system, gives rise to symptoms which, in persons less predisposed to nervous affections, would probably not be developed. This opinion, he remarks, suggests itself from a further analysis of the thirty-six cases he has tabulated, for such analysis demonstrates three important points:—1st, that the chorea is much more common (as has been often observed before) in females, in whom the nervous system is peculiarly prone to disorder, than in males, in whom this proneness does not exist; thus of the thirty-six cases two-thirds (twenty-four) occurred in females, one-third (twelve) in males; 2dly, that a large majority of the cases occurred at that period of life in which there naturally exists, especially in females, a peculiar tendency to nervous affections—namely, the period of puberty, or of the first onset of the menstrual functions. Thus, on examining the ages of the several cases, we find that among the females the chorea occurred in one at 11 years old, in two at 13, in five at 14, in six at 15, in four at 16, in two at 17, in two at 19, in one at 20, and in one at 27. Out of the twenty-four females, therefore, no less than 17 were between the ages of 13 and 17—i. e., during the critical period attending the development of the catamenial functions. A review of the male cases affords very similar results; for with the exception of one case, in a boy of 10, all the other cases occurred between the ages of 13 and 18. 3dly, that in several of the cases there was distinct evidence of predisposition to nervous affections. Thus it is noted that no less than nine of the patients had suffered from previous attacks of chorea, which, with one doubtful exception, were unassociated with rheumatism; and another case occurred in a nervous hysterical girl. This number might probably have been greatly enlarged had attention been paid to this point in the history of the other cases; but unfortunately in nearly all of them there is no mention of the existence or non-existence of any previous nervous affection.

In conclusion, Dr. Kirkes elicits as the results of his analysis, that there is no proportion between the severity of the rheumatism and the nervous movements, and that the post-mortem appearances discountenance the idea that the latter are due to rheumatic inflammation of the fibrous investment of nervous centres.

—A case of chorea is reported by Dr. NAYNE, which is interesting from the fact—that after death softening of the spinal marrow was detected. There is, however, no evidence calculated to associate the choreic movements with this lesion. Some discussion took place among the members of the Medical and Chirurgical Society, before whom the case was read, on the nature of chorea. Various opinions were expressed, but none satisfactory.

## § II.—Diseases of the Respiratory System.

23. *Plastic Bronchitis*.—A case of this comparatively rare disease is to be found in the "Transactions of the Provincial Association," vol. xvii., recorded by Dr. Sandwith. The symptoms were those of subacute bronchial inflammation, the expectoration consisting of tough substances of cartilaginous whiteness. The patient recovered under moderate local depletion and counter-irritation, combined with gentle mercurial action. The author has appended a concise history of the affection. [A case which occurred in our own practice will be found in a former volume, also followed by an abstract of the literature of the disease up to the period at which it occurred.]

24. *Phthisis Pulmonalis*.—The lectures on the physical diagnosis of phthisis by Dr. COTTON, of which we have given an abstract in a former volume, (Vol. X. p. 51,) have been republished in a separate form.\* They give an excellent, and at the same time not too diffuse, insight into the auscultatory phenomena attending the several stages of the disease, and may be safely recommended as a trustworthy guide to the student and junior practitioner. That the author is fully competent to be an instructor on this subject is guaranteed by the fact, that he is Physician to the Brompton Hospital for Consumption, and has also been awarded the Fothergillian Medal for his treatise on Pulmonary Phthisis.

25. *Cancer of the Lung*.—An interesting case of this comparatively rare pulmonary disease, with remarks, has been contributed by Dr. MACDONNELL, of Montreal.† The patient was a young lady, æt. 17, who had two years before caught cold, having sat in damp clothes for a whole day; the catamenial discharge, which had just been established, was suddenly arrested, and did not appear for five months; she was attacked with pain in her left side, back, and top of the left shoulder. These pains continued, and were followed by difficulty of breathing, and inability to lie upon the right side, but *without cough or expectoration*. After some months a small tumour appeared above the left clavicle, somewhat painful to the touch, and to which tincture of iodine was applied by her medical attendant. In the month of July she was sent to Upper Canada for change of air, but derived no benefit from it, and returned to Montreal in September, much worse. The tumour noticed in the neck had become enlarged, although not yet conspicuous; but it was painful, and this sensation extended up along the side of the neck. At this period her father noticed *slight ptosis of the left eyelid, and contraction of the pupil of that eye*, "and the iris did not expand and contract equal to the other, in the transition from light to shade." "During the winter of 1848-49, she complained much of pains in her arm and shoulder, particularly at night, and often groaned in her sleep; yet she went out, and her appearance, occupations, and amusements were as usual." "In the spring of last year," continues her father, "I first observed the left arm to have shrunk or withered conspicuously, yet the tumour in the neck had not much increased in size." The following summer was spent in Upper Canada, during the most part of which she suffered greatly from pains in the left side of the chest, in the back and shoulder, and from debility and dyspnoea. She returned to Montreal last September, so altered in appearance that her father hardly recognised her; she staggered into the hall, "a poor emaciated creature, with a ghastly countenance of a bluish green colour. *She had upon her a constant hacking cough, great shortness of breath, had lost all appetite, and was*

\* Phthisis and the Stethoscope, &c., by Dr. A. P. Cotton. Churchill, 1851.

† From Brit. Amer. Journal of Medicine.

reduced to a skeleton, and so weak, that she sank upon the bed, whence she did not rise for three weeks."

She was now seen by a physician, who prescribed cod-liver oil and the local application of iodine to the tumour. "From this time her health fluctuated a good deal."

When seen by the author, his attention was immediately attracted by a large tumour on the left side of the neck, which protruded upwards from the thorax, through the space bounded by the clavicle in front, and the spine towards the middle. This tumour was of an irregular shape, somewhat globular, uneven on its surface, everywhere resisting, with the integument tense, shining, and cedematous. It was quite dull on percussion, and no pulsation, bruit, or thrill were perceptible. It was not painful to the touch, nor the seat of any *constant* pain, though *shooting* pains occasionally proceeded from it downwards to the fingers. The surface of the tumour was traversed by large tortuous veins, which anastomosed freely with similar veins on the left side of the thorax, the left arm, left side of the neck, cheek, and left side of the forehead. The tumour has, by its pressure, produced paralysis of motion and sensation of the left arm, and the pulsation of the ulnar, radial, and brachial arteries, is completely obliterated. The whole of this arm and corresponding part of the chest are extremely cedematous.

*Physical Signs.* The anterior portion of the left side of the chest is full and prominent, and is continuous with the tumour, there being no depression to mark the supra and infra-clavicular spaces; the clavicle is dislocated forwards, its sternal end projects nearly an inch in front of the sternum. The left side of the chest does not move in inspiration; its intercostal spaces are obliterated, and an extremely dull sound with resistance is elicited by percussion from the clavicle to its lowest part, and the same dullness extends all over the side behind and laterally. The respiration is *bronchial before and behind, and there is also bronchophony*, but not the least r  le of any kind. The upper portion of the right lung in front is clear upon percussion, but from the mammary region downwards it is quite dull. Behind, the respiration is loud and puerile, and without r  le. All over the right mammary region the impulse of the heart can be seen and felt; its impulse is extremely abrupt and violent, and both sounds are accompanied by a *loud sharp ringing soufflet* of a peculiarly musical and metallic character, quite unlike anything I have ever heard. The apex of the heart strikes towards the right axilla. The right hypochondrium yields the usual dullness. *There was no increase of hepatic dullness below the ribs.* The left side of the chest *appears* to be increased in size. The respiration is short, about 40. The inspiration is accompanied by great action of the intercostals of the right side, the expiration is accompanied by a *short stridulous grunting noise*. The voice has never been affected, and except during the severe attacks of dyspnoea, there is no stridor. *She has no cough, nor does she expectorate anything. She has never had h  moptysis, nor has she at any time had red currant-jelly-like expectoration; but she is subject to frequent attacks of epistaxis, which invariably proceed from the left nostril.* The beating of the heart is frequently very troublesome; the pulse is small, about 120, sometimes more frequent, and sometimes less so; it is not intermitting nor irregular. During the prevalence of easterly winds, and before a fall of snow, her friends remark, that her countenance brightens up, she appears quite healthy, and her spirits improve; these are but the precursors of an extremely severe attack of dyspnoea, which is sometimes, however, warded off by the administration of an antispasmodic.

The tumour gradually extended across the neck; it pushed the larynx, trachea, and thyroid gland completely over to the right side, and now occupies the median line, and extends beyond it. *The right arm became partially paralysed, and the pulse at the wrist perceptibly smaller than it used to be; oedema and varicose veins occupied the right side of the chest, and the right arm is also becoming cedematous.* Severe attacks of dyspnoea and palpitations have occasionally occurred—sometimes almost threatening to terminate her existence. These attacks are invariably preceded by a temporary amendment—her spirits become cheerful, her strength increases, and the countenance becomes animated; the colour of the face, which is usually sallow and livid, changes to a bright rosy hue; but at the

same time it is quite apparent that the tumour undergoes marked augmentation, and that the tortuous and varicose veins become more enlarged and turgid.

After a succession of these severe attacks of dyspnoea, she expired.

The treatment consisted of generous, bland diet, a moderate quantity of wine, and the use of camphor, aether, opium, lobelia, &c., sometimes given conjointly, at other times separately, according to the judgment of her father, a gentleman of great sagacity, who from close and unremitting attention to all the phases and variations in her case, acquired a rare tact in the employment of these drugs. The neuralgic pains which attacked the chest, shoulder, and sometimes extended down the arm, were always relieved by a warm lotion containing tincture of aconite, in the proportion of one ounce of the common tincture to seven of water. Folds of lint saturated with the above lotion were laid over the painful parts, and evaporation prevented by surrounding the lint by a piece of oiled silk. This application used to give great relief.

*Post-mortem Examination.* Before opening the body, a careful examination was made by inspection, percussion, and measurement, when the following circumstances were noted. The whole of the front part of the chest was cedematous, and traversed by large tortuous veins, which anastomosed freely with the superficial epigastric veins. The greater number of these vessels were noticed upon the left side. The left arm, from the shoulder down to the hand, was much swollen from cedema, and at its upper part were numerous veins inosculating with those of the neck, chest, and axilla. The right infra-clavicular space was depressed, the left was full and prominent, and constituted part of the tumour already spoken of. The right shoulder was elevated, and the clavicle was separated to about the distance of an inch at its attachment to the sternum. Percussion yielded the same results as were noticed during life, with this exception, that there was complete dullness extending from the normal hepatic region, downwards for the extent of two inches below the margin of the ribs. The circumference of the neck and tumour, measured above the clavicle, was 16½ inches; the distance from the nipple to the sternal end of the clavicle 6 inches on both sides. The circumference of the chest upon a line with the nipples was 27 inches; it being on the right side 12½, and upon the left 14½ inches; distance from the right nipple to umbilicus 9½ inches, from the left 10½. Nothing remarkable was observed on any other part of the body except extreme emaciation. On opening the thorax, the heart and pericardium were observed lying to the right of the sternum, and distant about three inches from the mesial line. The pericardium was quite healthy and contained no fluid, nor was it adherent in any situation. The heart was of natural size, and free from any disease whatever, either of its walls or valves. The left side of the chest was occupied by an enormous mass of encephaloid cancer, which adhered firmly to the ribs, and was continuous with the tumour noticed in the neck. It was contained within well-marked cysts, which enveloped it in the same manner as the arachnoid surrounds the brain, and which when slit open, allowed the cerebriform masses to be seen, presenting well-marked convolutions and sulci exactly resembling those of the brain. In a few situations, hæmorrhagic clots intervened between the investing capsule and the surface of the mass. There was no adhesion to the front part of the ribs or to the sternum, diaphragm, or pericardium. No trace of pulmonary structure could be seen, except at the diaphragmatic portion of the tumour, where a thin layer of condensed lung was spread over it for a small space, and peeled off it, as if merely coherent from apposition—no bronchial tubes extended from this portion of lung to the cancerous mass, nor could any be traced in the latter—the left bronchus entered its upper part, but no traces of its ramifications could be discovered. Such were the characters of that portion of the mass within the chest; but as it was emerging from the latter situation, it had dislocated the clavicle and was indented by the latter bone. At this point, the tumour pressed upon, and stretched out the left subclavian artery and vein; the left carotid, though not so much interfered with, was pushed a little towards the mesial line. This artery, as well as the pneumogastric and sympathetic nerves, were pushed backwards by a process of the growth, which proceeded towards the lateral processes of the cervical vertebrae, to which it took a strong attachment. On the anterior part of the tumour, the sterno-clavicle

mastoid, and the sterno-hyoid muscles, were spread out in riband shape, and their fibres were separated from one another. The brachial plexus passed through the middle of the growth, and could not be completely separated from it, even by the scalpel. The third stage of the subclavian artery was obliterated by a coagulum, and was not much larger than the radial. The phrenic nerve passed over the most prominent part of the tumour. The oesophagus was pushed towards the middle, and, as noticed during life, the larynx, trachea, and thyroid gland were shoved over into close contact with the right brachial plexus. The mass adhered firmly to the clavicle near the shoulder-joint, and also took an attachment to the acromion, and a portion of it passed under the trapezius muscle. When removed from the body, the mass was weighed, and found to amount to *six pounds and a half*. The right lung was quite sound, except at its inferior part, where we found three small encephaloid tumours, of the size of large currants, growing from the surface of the lung and covered by the pleura. The liver was much enlarged from congestion, and when cut into, blood escaped in large quantity.

The other abdominal organs were all healthy. The brain was carefully examined. Some slight vascularity was noticed upon the pia mater, but there was no effusion either beneath the arachnoid nor in the cavity of the ventricles. The origin and course of the third nerve were accurately examined, but nothing abnormal could be detected, and the same remark applies to all the cerebral nerves and to the structure of the brain itself.

The author remarks that it is only within the last few years that the diagnosis of cancer of the lung has been established on a tolerably certain basis; and that cases yet occur almost daily, which prove that many points connected with the disease remain to be worked out. It is to be regretted that the nature of some of those cases was not even suspected during life; that others were under the observation of practitioners imperfectly acquainted with the existing state of knowledge upon this and other thoracic diseases; whilst a third class of cases has been carefully observed during life, but, no post-mortem examination having been performed, we are unable to connect their signs and symptoms with anatomical lesions observed after death.

In reference to the diagnosis of cancer of the lung, the author states that he had diagnosed a particular case to be this disease, on the following grounds:

1. In nearly all the best-preserved instances of *primary* cancer of the lung, the disease has been ushered in by symptoms of pleurisy, and in many of them those symptoms have existed throughout; in some cases undergoing abatement as the cancer advanced; in others, disappearing, or remaining stationary. To the former class belong the case under consideration, those by Graves, Heyfelder, Hughes, Syms, and Stokes; and Dr. Macdonnell doubts not that if the early history of some other published cases had been inquired into, that the disease would have been found to have commenced with an inflammatory attack of the lung or its investing membrane; at least, this has been the result of his experience of the disease, and in the above case no exception was formed.

2. The only diseases producing enlargement of the side, absolute dullness, and firm resistance on percussion, absence of *vesicular* respiratory murmur, protrusion of the intercostal spaces, and detrusion of the heart, are extensive empyema and cancer of the lung or mediastinum. In the foregoing particulars, these diseases resemble one another; but Dr. Macdonnell has only once noticed enlargement and tortuosity of the veins of the chest in empyema; and in only one case has he noticed a *bruit* in a heart dislocated from pleuritic effusion; and though he has observed tumours forming on the exterior of the chest in empyema, yet such tumours were always soft, fluctuating, and devoid of pain. Oedema of the side has been often noticed in acute pleurisy, less frequently in chronic, but in no instance of either form of the disease has the author observed it accompanied by *permanent* oedema of the corresponding arm; and empyema, so extensive as to have produced such a great change in the size of the chest, and in the relation of organs, might have enabled peripheric fluctuation to have been detected.

3. The want of pulsation, bruit, thrill, dysphagia, of laryngeal cough, together with the extent of dullness, &c., were opposed to the idea of the disease being

aneurismal, although the paralysed condition of the left arm and loss of pulse at the wrist and bend of the elbow are not uncommonly observed in thoracic aneurism springing from the arch or some of its branches; and the same cause might produce a varicose condition of the veins of the thorax and arm—a point to which Professor Walshe, of London, has directed attention.

4. With the idea of extensive deposition of tubercles in the lung and tubercular disease of the cervical glands, pathology and clinical observation are both opposed; for the author does not believe that tubercular disease of the lung ever produces enlargement of the affected side of the chest or of any portion of it; and in no case, no matter how extensive the deposit, have we complete dullness and total loss of respiratory vesicular murmur; and in extensive tubercular deposit, softening, and consequently the signs of cavities, would have taken place long before the author saw the patient; nor should we find a healthy condition of the opposite lung, nor dislocation of the heart; and it need hardly be added, that extensive tubercular deposition in one lung would soon have been accompanied by signs of disease in the other, by cough, hæmoptysis, hectic, &c., and that external tumours, varicose veins, cedema, and paralysis of the upper extremities, are not seen in phthisis.

5. With the idea of the disease being chronic pneumonia, (even granting its frequency, as some modern writers seem disposed to believe—an opinion to which the author's experience is much opposed,) the facts of the case were quite incompatible.

Commenting on the case narrated, Dr. Macdonnell states that he could not reconcile the symptoms with any other disease than cancer, and directs the reader's attention to some of its peculiarities.

Amongst the most prominent, he mentions the absence of cough, of bronchitic râles, of stridor, of dysphagia, of currant-jelly-like expectoration, (for which, however, the daily epistaxis was a substitute, and of aphonia.

The paralysis and pain of the left arm are, he observes, easily accounted for by the pressure of the tumour on the brachial plexus of nerves; and by the same pressure acting upon the subclavian artery and vein, the absence of pulsation and the presence of cedema are explained.

Dr. Sims and others have noticed the cedema of the arm, resembling that of phlegmasia dolens; *but the total absence of pulsation in the principal arteries, with complete paralysis of one arm and partial paralysis of the other*, are, the author asserts, now recorded for the first time; and though pain of the chest and through the shoulder is often mentioned, yet he knows of no other instance where it extended down the whole arm.

Dysphagia appeared only in the last two days of her illness.

After endeavouring, not very successfully, to explain the occurrence of ptosis, Dr. Macdonnell remarks further, that to auscultators the occurrence of marked bronchial respiration, with bronchophony, heard all over the left side, whilst there were no bronchial tubes running through the cancerous mass, suggests many questions of consideration:—Where were those sounds generated? how were they transmitted all over the side?—if by continuity of the ribs with those of the opposite side, through the medium of the sternum, or by continuity of the ribs with the larynx and trachea, partly through their connection with the sternum and with the cervical tumour—or did the mass itself act as a conductor from the larynx and trachea to all parts to which it extended? The latter opinion the author is disposed to adopt. If the ribs are supposed capable of having transmitted those sounds, then they should have also transmitted the cardiac sounds, and the vesicular murmur from the opposite side, and the sound heard all over the diseased side would have lost much of its strongly marked tubular character; and for the same reason he cannot suppose that the parietes acted as conductors from the trachea, seeing that they do not perform this office in other cases. There is no difficulty, however, in comprehending how a mass of encephaloid, occupying the left side of the chest, and firmly pressed against the larynx, no breach of continuity occurring in its structure, and into whose substance the left bronchus entered for some distance, should convey, with great clearness, sounds generated in the larynx of an individual, in whom exaggerated respiration had become habitual and permanent.



The peculiar bruit heard to accompany the sounds of the heart remains unexplained by any anatomical appearances discovered at the autopsy.

### § III.—*Diseases of the Circulatory System.*

26. *Diseases of the Heart.*—The Gulstonian lectures for the present year, by Dr. OMEROD, are occupied with the subject of cardiac disease. Portions of these we have transferred to our pages, among the extracts (see Art. 22).

27. *Theory of the Sounds produced in the Circulation.*—The following are the conclusions of Dr. KIVISCH,\* on the site and mechanism of some of the auscultatory phenomena appertaining to the vascular system. We need not say that they are strangely at variance with the generally accepted views:—

1. Every sound is produced by a mutual reaction between the walls of the vessels and the contained fluid. 2. In a perfectly sound heart, the sounds are produced through the agency of the valves. 3. All vascular bruits are caused by inequality in the caliber of the vessels, which is ordinarily produced by pressure upon their parietes. 4. This is particularly the case in chlorotic females, and in the abdominal bruits of pregnant women. 5. No sound is ever produced in the veins. 6. The so-called placental bruit is really situated in the arteries of the abdominal walls; and so far from being strictly allied to pregnancy, is heard in other enlargements of the abdomen, as in diseases of the uterus and ovaries.

28. *Pericarditis.*—An able paper has been contributed by Dr. GAIRDNER, in which the author investigates the frequency of the termination of pericarditis in adhesion, and its subsequent effects upon the structure and functions of the heart. The inferences which he thinks are warranted by the analysis of a number of cases are exhibited in the following summary:—

1. It seems probable that a *considerable* proportion of cases of adherent pericardium occurring in hospital practice, and a *very large* proportion of these when not primarily connected with endocardial or arterial disease, is unattended with enlargement of the heart, or by any prominent symptom of cardiac disorder.

2. It hence appears that the tendency of adherent pericardium to produce hypertrophy of the heart, is much less than that of valvular or endocardial lesions. In nineteen cases of disease of the orifices, sufficient to produce decided obstruction or regurgitation, the author only finds one in which hypertrophy of the heart is not mentioned. On the other hand, in thirteen cases of adherent pericardium, uncomplicated with endocardial lesion, there were nine in which no hypertrophy was present.

3. It is not to be inferred from this statement, that adhesion of the pericardium is as unproductive of serious consequences as Laennec states. The greater number of hospital deaths are from chronic diseases, in which cardiac complications are apt to be overlooked. This is the case in the nine instances alluded to; all were cases of such diseases as phthisis, diabetes, &c.

4. There is, on the contrary, strong evidence that in some circumstances adhesion of the pericardium alone may lead to hypertrophy and dilatation.

The difficulty arising from the apparently contradictory statements, that adherent pericardium, at first uncomplicated, may ultimately induce extreme hypertrophy in certain cases, while in others it is powerless to produce this effect, or even to oppose atrophy of the organ, is explained by the author on the supposition that the free motion of the heart within the pericardium is required in health, not so much to meet the necessities of the circulation in an ordinary state, as to provide for the contingency of excited action. This is of daily occurrence, but, being temporary, is to a great extent controllable. An individual liable to excited action of the heart is, he observes, induced to adopt a restricted rule of living, and thus has his enemy under control.†

\* Archives Générales, Mai 1851.

† Edinburgh Monthly Journal, Jan. 1851.

29. *Coeistence of the Arcus Senilis, with Fatty Disease of the Heart.*—The peculiar white zone which is found in the eyes of aged persons, and also occasionally in earlier life, having been determined by Mr. CANTON to be a fatty degeneration of the cornea, that gentleman has further inquired whether there is any association of this condition with fatty heart. As a result of his investigation, he states the important fact, that he has never seen the arcus senilis, when well developed, unaccompanied by fatty degeneration of the heart. Drs. I. C. B. Williams and Quain have made a similar remark, and consider the presence of the arc as a diagnostic sign of the disease. Dr. Williams has furnished the following table, illustrative of the connection between the two phenomena:—

| Sex. | Age. | Degree of Arcus. | Prominent Symptoms.                         |
|------|------|------------------|---|
| M.   | 56   | Marked.          | Palpitation; short breath; œdema.           |
| M.   | 65   | Slight.          | Pulse irregular; breathing very short.      |
| M.   | 52   | Marked.          | Fluttering at heart; dyspnoea.              |
| M.   | 77   | "                | Dyspnoea; œdema.                            |
| M.   | 74   | Moderate.        | Palpitation; fluttering; œdema.             |
| M.   | 67   | Marked.          | Palpitation; occasional angina.             |
| M.   | 60   | "                | Dyspnoea; sternalgia on exertion.           |
| F.   | 49   | "                | Dyspnoea and fluttering on exertion.        |
| M.   | 55   | "                | Short breath; dropsy.                       |
| M.   | 62   | "                | "   |
| M.   | 48   | "                | Great weakness; slight œdema.               |
| M.   | 64   | "                | Short breath; weakness; œdema; albuminuria. |
| M.   | 70   | "                | Short breath; irregular pulse; œdema.       |
| F.   | 64   | "                | " sternalgia.                               |
| M.   | 56   | "                | " angina.                                   |
| M.   | 59   | "                | " slight œdema.                             |
| M.   | 50   | Slight.          | " " albuminuria.                            |
| M.   | 60   | Marked.          | " hæmoptysis.                               |
| M.   | 69   | Slight.          | " weakness; faintness; slight œdema.        |
| M.   | 50   | "                | " sternalgia; œdema; albuminuria.           |
| M.   | 45   | "                | " weakness and faintness.                   |
| M.   | 59   | Marked.          | " palpitation; œdema.                       |
| M.   | 58   | "                | " fluttering; sternalgia.                   |

*Cases of supposed Fatty Degeneration of the Heart without Arcus Senilis.*

|    |    |       |   |
|----|----|-------|---|
| F. | 60 | None. | Short breath; palpitation and fluttering, and almost syncope. |
| M. | 66 | "     | Extreme asthenia; irregular pulse; breath short.              |

This table shows that the arcus senilis existed in the large number of twenty-three out of twenty-five cases, in which the symptoms afforded reasonable grounds for suspected fatty degeneration of the heart.\*

30. *Comparison of Diseases of the Right and Left Sides of the Heart.*—In the latest of an interesting series of papers published in the "Edinburgh Medical and Surgical Journal,"† Dr. RITCHIE has drawn a parallel between dextral and sinistral cardiac disease, in the early and advanced stages. The following is an abstract of his communication:—

In the early stage, when the patients are free from any acute disease connected with the cardiac lesion, the subjects of sinistral disease will appear in good health, or only a little more florid than usual; but the other will appear delicate, with pallid face, and more or less distension of the capillary veins of the face. The former takes a deep breath without inconvenience; the latter

\* Lancet, Dec. 1850.

† No. clxxxv.

cannot inspire so deeply, and the effort causes him to cough. The digestion of the latter will also be impaired, and the pulse feeble and low; while the appetite of the sinistral patient is often craving, and the pulse impulsive and strong.

On exposing the chest, the subject of disease of the right heart will exhibit less adipose tissue about the neck; the intercostal spaces will be more deeply indented, and the ensiform cartilage drawn in. The jugular veins will swell out, especially in coughing.

The sinistral case will have visible impulse at a point about two inches to the left of the ensiform cartilage, while in the other there will be no perceptible impulse.

A marked difference also exists both in percussion and in auscultation, which difference the author succinctly points out, as well as in the secondary complications. In reference to the differences perceptible in the advanced stages, the author states that the essential circumstance in the advanced disease of the left side, is the persistence of regurgitation, and consequent distension of the ventricles, auricles and veins, with oppression of the pulmonary circulation, and consequent distension of the right heart, adjacent veins, liver, spleen, &c. On the right side, the effect is the pressure of the engorged auricle upon the ascending aorta, which acts by still further adding to the embarrassment.

In both classes of cases, in the advanced stages the general symptoms may be very similar—so much so, that the author considers it will be difficult to accomplish a diagnosis. This, however, will be aided by the following considerations:—

1. It will commonly be found that the subjects of the first, or congestive form, have had more or less violent and long-continued or reiterated attacks of bronchitis, and that those of the other have either had rheumatism in some shape—often in an aggravated one, but not rarely limited to the shoulders and trunk only; or that they belong—1st, to a class of individuals possessing what seems high, vigorous health, who have been seized suddenly with alarming symptoms of pulmonary congestion, the endocarditis of which they have been the victims having occurred in a latent form some years before, and been mistaken for an attack of indigestion or a cold, while its sequelæ have been endured almost in unconsciousness throughout the interval; 2d, that they, if females, have been pregnant, and fallen into bad health during lactation—the condition of the blood in pregnancy appearing to give a predisposition to endocardial disease, although this inflammation is seldom detected till it has terminated in structural lesions; or, again, that they have been the subjects, at some former period, of acute primary albuminuria, from which the kidneys never recovered; or, 3d, that they are aged persons, in whom depositions of albuminous, phosphatic or bony matter have happened in the heart, without any recognisable rheumatism or other cause of endocardial inflammation having preceded them.

2. The external aspect of the two patients, although the same in many respects, will yet be found to differ in many more.

- a. The subject of inflammatory or other degeneration of the left heart will be either deadly pale, the tunica albuginea of the eyes of a pearly whiteness; or there will be a strongly-defined purple redness on the cheeks, all else being of a chalky or dirty whiteness, excepting the lips, and sometimes the nose, which are of a faint violet or rose colour: but in the other, the whole face and ears, the tongue, and often the internal mouth, as well as the lips, will be of a livid hue. The swelling and violet hue of the tongue, and the fulness of the ranular veins, will also be more conspicuous; and while here, also, the superficial veins of the limbs will, from long-continued distension, be tortuous; in the former case, the arteries, the radials, for example, are often found in this state.

- b. Again, both patients will be found more or less propped up in bed; but in the congestive, the thoracic oppression will be more striking, and the patient will probably be seen with his lower limbs thrown over the sides of the bed, or, if reclining, he will be reclining forwards, a contrivance intended to get quit of a quantity of superfluous venous blood by the legs, and to increase the

capacity of the chest, if not also specially to relieve the aorta from the pressure of the blood in the right heart. It might be supposed that, as an obstacle to the free egress of blood from the pulmonary veins is, at this advanced stage, a chief element in the constitution of a sinistral case, the symptoms of plethora in the lungs must necessarily be equal in the two forms. Yet such is not found to be the actual fact. The indications of a loaded state of the areolar vessels of the lungs are far from being equally marked in the structural form of cardiac disease as in the congestive. Pulmonary hyperæmia is essential to every stage of the one, and is an accidental concomitant only of the other in its most advanced stage—a fact explicable alone on the supposition that a mechanical impediment to the transit of the blood by the extremities of the pulmonary artery and radicles of the pulmonary veins, induced, perhaps, by previous dilatation and extension of the cell walls, is one of the earliest elements in the pathology of the congestive form of heart disease.

c. Again, when the symptoms are in great intensity, neither patient can rest on the left side, but while in the endocardial form, this peculiarity remains under every usual degree of mitigation of the symptoms; in the other, it disappears precisely almost in proportion as the congestion abates. And so is there, also, a difference in the cause of this symptom in the two affections. In the arterial, it is the contact of the overgrown heart with the ribs, consequent on the recession of the lung to the upper part of the thorax; and in the venous, in which the size of the heart is less, and its covering by emphysematous lung persistent, it is the augmented pressure, in this posture, of the right heart on the aorta, which prevents the patient from reclining on his left side.

d. In the latter affection, the patient may be observed at intervals to throw back the head suddenly, and make a deep inspiration of a wheezing kind; in the former, the breathing in bad cases is expiratory and loudly panting, and every pulsation of the heart communicates also to the head, and often to the whole body a succussion, which is unknown in the other.

e. Again, in the congestive, the anasarca and ascites are at this stage commonly excessive, and the hands, feet, and nails are livid: but in the other, the swelling is for the most part limited to the legs and forearms; and although the nails are sometimes of a dark hue, the skin is colourless, or even bloodless.

3. On examination of the præcordia, it will generally be found larger than natural, and there will be irregular, vibratory, sometimes vermicular-like movement of the intercostal spaces, and a simmering or purring sensation received by the hand in the subject of the inflammatory form, and none of these in the other. There will be dullness on percussion at the præcordia in both; but, in the endocardial, it will be as high as the level of the fourth rib perhaps, and situated also chiefly to the left of the cartilages of the left ribs, and, in the other it will be at the bottom of the sternum; and while, in the former, the dull space is either persistent or progressive, in the latter it diminishes in extent with the improvement of the case. With the abovementioned exception, percussion of the thorax in the congestive patient will give out a clear emphysematous sound over the whole of the lungs, which, in the other, is limited to their upper portions, unless that, in the congestive form, the lungs themselves or the thoracic parietes, happen to be oedematous, circumstances which are rarely seen in the structural cases.

In the latter, again, the bronchitis which may be present is always secondary to the palpitation and dyspnoea, and is generally also merely an accidental graft on the disease, the fruit of exposure to cold and wet, and which is limited commonly to the larger tubes; but, in the former class of cases, the bronchitis is primary, essential, and often extended to the capillary bronchia, so that the rhonchi are universal over the thorax, of the most copious and superficial kind, and almost as readily detected by the hand extended on the ribs as by the use of the stethoscope.

Again, in the same description of patients, the dyspnoea present exists independent of any physical exertion, and precedes the anasarca sometimes for years; while, in the sinistral cases, there is often little dyspnoea excepting on the occasion of some muscular effort; and when at length this symptom

does become permanent, it is in them also immediately complicated with anasarca. In sinistral cases, the palpitation, dyspnoea, and dropsy, are generally excited by the patient's previous exposure to fatigue; and, in moderate attacks these symptoms will frequently subside by means of rest alone, an issue which cannot be anticipated in the other form of heart disease.

The cardiac sounds discovered by auscultation are very similar in the two kinds; but, in the congestive, they are for the most part softer and less loud than in the other; and in proportion as the patient's situation improves, they become fainter, and at length, in a state of rest, completely disappear; while, in the other, they never cease under any degree of improvement, but often do so when the powers of life are flagging, or when the obstruction has become excessive. Again, in the former, in consequence of the heart being covered up on all sides by emphysematous lung, an extremely bad conductor of sound, and the lungs also emitting loud and varied kinds of bronchitic rhonchi, it often happens that the cardiac murmurs are heard with much difficulty over the præcordia; and it is required, in order to ascertain the precise character of these, to place the stethoscope on the carotids, in which the aortic sounds at least are uniformly repeated with great distinctness and accuracy, while in the endocardial cases, any such necessity seldom obtains. The murmur which is heard at this period also, is, in the congestive patient, exclusively regurgitating, and formed in the systole by the reflux of blood along the mitral, and in the diastole by its recession at the aortic orifice; but in the individual labouring under structural disease of the valves, the murmur is for the most part an onward one on the heart's contraction, and retrograde only during the dilatation. In the circumstances presumed, also, while in the latter patient the diseased sounds would be well heard along the great vessels, those of the former will be much fainter, and often limited to the diastole.

4. The veins are enlarged in both forms; but in the dextral there is often a jugular, and sometimes even a brachio-cephalic venous pulse, produced by a reflux portion of the right ventricular wave being propelled through the wide tricuspid passage on every contraction of the heart, while in the typical sinistral form this never happens. Again, in the latter class, at least when the aortic valves are affected, nothing is more common, so long as the heart retains vigour, than to see the carotid, brachial, and other superficial arteries leap violently from their sheaths at every diastole of the heart. In this state they have a quick or sudden impulsive motion, and to the touch appear full and unyielding—all circumstances in strong contrast with what happens in the other class, in which the systemic arteries are universally relatively empty, shrunk, and enfeebled.

The astonishing frequency of the pulse in endocardial cases is another important feature in their history, and one which is also limited to them. It is rare to find the pulse in congestive subjects more than 120, but in those others it is often 140, and even 160 per minute; and it is also in greatly enfeebled hearts of this kind quite usual to see a difference of 40 or 50 beats between the pulse at the heart and at the wrist. In both sorts of heart cases there is a certain character of impulsiveness in the pulse, proceeding probably from the increased efforts made by the left ventricle; but while in aortal cases the pulse is tense as well as impulsive, in dextral disease it is soft and compressible.

5. Again, in regard to the related affections in the two, paroxysmal dyspnoea, or violent attacks of orthopnoea, bilious vomiting, incessant purging, sweating, diuresis, and secondary albuminuria, gangrene of the genitals or limbs, although not confined exclusively to either, are all much earlier in their occurrence, and to this extent at least also more common in congestive than in endocardial disease; and the solidification of lung by effusion of blood into its cells, and the hæmoptysis which often complicate both forms, happen, according to my observation, most readily on the sides which correspond to the chief seat of the heart disease.

Further distinctions between disease of the right and left heart are shown in the result of post-mortem examination, and in the influence of treatment. For the author's observations on the latter, we refer the reader to Art. 23 in the present volume.

§ IV.—*Chylopoietic Diseases.*

31. *On the Origin and Modification of the Coatings of the Tongue.*—The following description is taken from an Essay by Dr. MIQUEL:\* When the coating which is generally observed at the back of the tongue is examined under the microscope, it is found to consist—

1. Of epithelium in the form of large flakes. These scales are found arranged together either in their normal condition, or under the most various modifications; while some are filled with globules of fat, others present brownish finely granular contents.

2. An innumerable quantity of small rods or prisms (*Stäbchen*) identical with the structures found by Leeuwenhoek in the tartar on the teeth. They are insoluble in acids and alkaline solutions, and would appear to be gradually formed in the locality where they are found.

3. Large brownish flakes of a striated appearance, varying in size and form, and consisting of the above-named epithelium, an amorphous adhesive mass, and granular brown pigment; the latter either fills the epithelial scales, or is imbedded among the constituents of the flakes, and is probably altered blood pigment, which is gradually transfused into the mucous membrane of the tongue and is probably associated with other granular substance. Acetic and hydrochloric acids do not alter it, but a potass solution appears partially to dissolve it, or, at any rate, to render it more colourless.

4. Fatty globules, with occasionally a few crystals of cholesterine.

5. Salts of lime are generally observed on applying hydrochloric acid.

6. Small *vibriones*, remnants of food, macerated muscular bundles, starch granules, and vegetable tissue.

The solid constituents of all the secretions of the cavity of the mouth are thus more or less replaced by this coating, which owes its origin to the evaporation of the aqueous constituents of the saliva. The function of the saliva, it must be remembered, is to dissolve or hold in suspension, by its large amount of water, all the solid constituents of this secretion, and to carry them into the digestive canal. If, in its passage, the saliva should lose its aqueous contents, by means of rapid evaporation, it will necessarily leave a great portion of its own solid constituents, as well as the other solid matters it had previously held in solution. Such evaporation occurs during respiration, in those portions of the tongue over which the air passes. During the process, usual to most persons, of breathing through the nose, the current of air passes over only the posterior portion of the tongue, where, moreover the unevenness and roughness of the mucous membrane of the tongue, from the subjacent papillæ, is the most likely to retain the solid parts brought in contact with it. This coating is the thickest in the morning, on the one hand, because respiration is carried on undisturbed at night through the nose; and on the other, because by day many circumstances occur which either cause it wholly to disappear or variously modify it. It will be removed by an energetic secretion of saliva; and it may thus be easily made to disappear by placing a grain of quinine in the mouth in the morning. A similar result is induced by the use of pungent food and drinks. Dr. Miquel further regards the causes of anomalous coating of the tongue to consist principally in an alteration of the mode in which the air is admitted in respiration, and an increase, diminution, or change in the secretion of the saliva.

While, as already observed, respiration is effected in most persons, when in health, through the nose, it is also performed through the mouth in different morbid conditions, (as, for instance, in stoppage of the nares and in most pulmonary diseases,) and also in certain individuals, either from habit or some unassignable cause. In this mode of breathing, the tip of the tongue, which is protected by the under lip and lower teeth, is not touched by the current of air, and thus we find that this part is free from coating; the thickest portion of the covering being along the middle line of the tongue, from whence it gradually disappears towards the margins, where the current

of air is the weakest, and the constant flow of the saliva prevents the adhesion of solid particles.

In paralysis of one side of the face, the air is admitted at one side of the mouth only, and on this may, perhaps, depend the limitation of the coating to one half of the tongue, as often observed in these affections.

Alterations in the different secretions of the cavity of the mouth give rise to different modifications in the coating, which again assumes different appearances according to the length of time it continues on the mucous membrane of the tongue. An increase in the mucous secretion without a corresponding augmentation of saliva, must necessarily give rise to a furring over the tongue, which is, therefore, an accompanying symptom of the most varied forms of disease, and occurs in catarrh of the mucous membranes of the respiratory organs, and in the incipient stages of many febrile affections.

The coating observed in dyspepsia, although generally confounded with the one above described, is essentially different from it as well in form as in the immediate cause of its origin. It is usually of a yellowish colour, presenting prismatic bodies, and flakes under the microscope, which prove that it does not depend on a fresh peeling of the epithelium from the mucous membrane of the tongue. It occurs in that form of indigestion in which the buccal fluids exhibit an alkaline reaction; whilst where there is a tendency to acidity, the tongue is generally moist and red. In the first form of disturbed digestion, there is considerable diminution of the salivary and gastric secretions, as shown by the dryness of the mouth and the hardness of the fæces. The coating of the tongue observed in acidity of the stomach, although of rare occurrence, or appearing only in children, must also be explained by the increased quantity of epithelial scales thrown off from the mucous membrane; but here the point and edges of the tongue are, in general, perfectly cleaned by the passage of the increased flow of saliva.

The thick furry coating of the tongue observed in salivation, depends, according to Dr. Miquel, on the *Glossitis mucosa* which accompanies this condition; and is characterised by a large number of fat-globules, granular fat, imperfectly-developed epithelial cells, and some cholesterine crystals. It exhibits the same relation as the secretion of other mucous membranes when in excess.

These coatings may all assume various appearances after being long exposed on the tongue, and usually change from a yellowish to a brown colour. This is especially the case in the catarrhal coating, observable as a sequela of acute diseases; and is to be ascribed, according to Dr. Miquel, to the cessation of this, as well as of most of the other secretions in the torpid stages of disease. The coating already formed on the tongue is removed with the subjacent salivary secretion, and a quantity of blood pigment then gradually exudes on the mucous membrane of the tongue, and becomes deposited as a granular matter on the epithelia, or forms an independent structure. Dr. Miquel does not venture to determine whether this blood pigment reaches the mucous membrane of the tongue by transudation from the vessels, or in consequence of the laceration of some of the capillaries; he inclines, however, to the former view, and seems certain that this transudation bears a definite relation to the dryness of the tongue. When, after a favourable turn in acute diseases, the secretions from the skin and kidneys are increased, there will be fresh epithelia thrown off from the mucous membrane of the tongue, as well as increased salivary secretion. The previous brown coating assumes a more whitish colour and the tongue becomes moist, which is regarded as a favourable indication.

The black or soot-coloured coating on the tongue depends on essentially different causes, and originates in a rapid dying off of the epithelial layers nearest to the surface, and on the laceration of small capillaries running at the surface. When examined under the microscope, it is found to consist of connected epithelia of an uniform brown colour. The cause of this blackness of colour seems very uncertain; but the dying and peeling off of the epithelia would appear to depend on the cessation of the nutrition of the outer epithelial layers arising from general prostration of the system, and also in part on the

dryness of the tongue, which, by inducing an unnatural pressure on the minute capillaries at the surface, causes them to burst and discharge their contents below the outermost epithelial layer, which is thus raised in the form of a bladder and broken. A similar process may be better observed on the mucous membrane of the lips, where it is induced under similar conditions to those of the coating of the tongue, or from purely local causes, as the action of cold, a cutting wind, &c. Dr. Miquel found the mucous membrane at first flaccid, of a yellowish colour: after the appearance of rugæ, portions of the epithelial layer now become detached, there is slight extravasation of blood, and black deposits appear on the lips. When these arise from local causes alone, they are easily arrested by protecting the mucous membrane by a little grease or fat; but when they occur in acute diseases, together with this black coating of the tongue, they must be regarded as an unfavourable symptom, since the arrested nutrition of the epithelial layers gives evidence of extreme prostration of the general system.

32. *Treatment of Lead Colic by Chloroform.*—M. ARAN\* speaks favourably of the internal use of chloroform in painters' colic. He has tried it in eight cases. He gives spoonful-doses of a mixture containing 40 parts of chloroform in 130 of water and syrup, and administers an enema containing a small portion. Upon a compress previously moistened with water and slightly squeezed, from 4 to 8 grammes of chloroform (according to the intensity and extent of surface occupied by the pain) were poured and kept applied for from 15 to 30 minutes by means of the hand to the abdomen. On the next day and day after, the application was renewed; but it was very rarely required the third time, and the other means were continued until spontaneous and natural stools became established. Alkaline and sulphurous baths were used every other day, in order to remove any lead that might adhere to the surface. In five of the eight cases, the pains at once disappeared, never to return, after the local application, the patient being quite cured of the disease in from two to six days. In the others the pain did return, in a mitigated form, requiring a new application. In only two cases relief from the internal use of the chloroform was obvious, while in some the clysters produced positive irritation. It is upon the local use of the substance, therefore, that the author lays the greatest stress. Of the three cases in which it was less successful than in the five, he gives particulars. In two of these the primary relief was just as rapid, but the patients leaving the hospital, relapses were at once induced; on returning and again being promptly relieved, however, and remaining a few days until the alvine evacuations and appetite returned, they too were effectually cured. In the third case, in which *liq. subac. plumb.* had been drank in mistake, the pain too was promptly relieved, but castor-oil was required in addition to remove obstinate constipation.

33. *Obstruction of the Bowels.*—Dr. BURNET† has published a valuable paper on the causes, diagnosis, and treatment of obstructions of the bowels. He divides the causes into—1. *Intrinsic*, or those which affect the intestine from within. 2. *Extrinsic*. 3. Causes which do not come under either division.

The *intrinsic* causes embrace:—

a. Accumulations of ingesta.

b. Pathological conditions, such as intra-intestinal tumours, stricture from scirrhus, or other organic cause, and organised bands stretching across the channel of the bowel.

c. Enteroliths, or concretions.

The accumulated ingesta may be of various kinds and in various situations.

Of the *pathological causes*, stricture from scirrhus is said to be the most common, and is usually found at the sigmoid flexure, but also in the cæcum. The most remarkable cause of obstruction is, however, that arising from organised bands stretching across the cavity of the gut and entangling the fæces. The author

\* Bulletin de Therapeutique, and Brit. and For. Med.-Chir. Rev., April 1851.

† Provincial Journal, April 16, 1851.



has published a case of this kind in the Twentieth Volume of the "Medico-Chirurgical Transactions."

The *extrinsic* causes mentioned by the author comprise:—

Strangulated hernia.

Adhesion of a convolution of intestine, after the operation for hernia.

Twist of the sigmoid flexure of the colon.

Diverticula.

Pseudo-membranous bands.

A rent in the mesentery.

External tumours.

The third class includes:—

Intussusception.

Enteritis.

Colic from lead.

Intestinal spasm.

As the author observes, the multitude of causes which may give rise to obstruction renders the diagnosis very important in reference to the means to be adopted for alleviation. This may, the author observes, be, to a certain extent, assisted by bearing in mind the following circumstances:—

*Intussusception, internal strangulation, and twist of the sigmoid colon*, rank in the same category, and have signs in common; as sudden attack and great suffering, perhaps after some strain or exertion, the patient having up to the moment of seizure been in his usual health. Signs referred to the left ilio-inguinal region may point to the sigmoid colon, while deep-seated circumscribed tenderness, with resistance to the touch and dullness on percussion, may point to strangulation or invagination, to the latter especially if blood is voided from the intestine, a sign in this case almost pathognomonic. Yet doubt will exist.

*Impaction of feces in the cæcum* may be recognised by a distinct circumscribed tumour in the right ilio-inguinal region, in conjunction with a costive habit; *accumulation in the colon* by a solid feel in the course of the gut, with dullness on percussion; *impaction in the rectum* by urgent tenesmus, verified by digital exploration.

*Scirrhus disease* at the termination of the colon in the rectum may form and exist without any other symptoms than those of dyspepsia, attended often with a diphtheritic or aphthous state of the mouth—a suspicious sign; the action of the bowels, formerly regular, having become difficult and uncertain, the dejections at the same time being scanty, soft, and very offensive; followed, sooner or later, by complete obstruction. Pains of a *neuralgic character* in the abdomen and about the trunk of the body are the frequent attendants of organic disease of the intestine, tending to occlusion of the canal.

The existence of *spasm* as a cause is indicated by intense pain and restlessness, with absence of febrile movement.

The author further states that our diagnosis may be further assisted by the violence of the symptoms. In obstruction from *fecal accumulation*, the countenance does not indicate imminent danger; such cases will often terminate favourably even as late as the tenth day. A sign of some interest mentioned by the author, is visible peristaltic action, which may be noticed in most cases of mechanical obstruction, excepting those arising from strangulation; in these, as in enteritis, the abdomen is perfectly *still*. This remark of the author requires verification.

In rectal obstructions there is resistance to the passage of enemata with tenesmus.

Bloody stools point to invagination.

In the *treatment* of intestinal obstructions the author gives some valuable directions respecting the use of purgatives. He thinks that one or two doses may be given in most cases when the cause is not distinctly ascertained to be mechanical; but he, with every judicious practitioner, discountenances a perseverance in their employment if ineffectual.

Speaking of the propriety of opening the abdomen in otherwise irremediable cases, the author says, that it is countenanced not only by actual cases of obstruction in which it has been performed, but also by the instances in which

gastrotoomy has been performed for ovarian tumour. If the obstruction can be localised, he advises a small incision; but if not, he would not hesitate to recommend free incision of the abdominal walls to allow of exploration.

In scirrhus of the bowel, nothing can be suggested as a curative; Amussat's operation only is left as a last resource.

Of general remedies the author speaks of bloodletting, fomentation, enemata; but opium in continued doses finds most favour, either alone or combined with calomel. Cases are narrated or alluded to in which this combination has succeeded when hope has appeared to be abandoned.

A curious case will be found among the Extracts in the present Volume, in which obstruction was caused by a leaden bullet swallowed.

34. *Dysentery*.—A pamphlet has reached us, written by Dr. JOHN MCPHERSON,\* containing some valuable statistical information on dysentery, as it is seen in Bengal. In the treatment he speaks favourably of large warm-water enemata; but apparently not from his own experience. In our Ninth Volume, p. 212, it will be seen that this practice has been successfully followed by Dr. Irving.

#### § V.—Diseases of the Genito-Urinary System.

35. Dr. GOLDING BIRD has favoured the profession with a third and improved edition of his well-known and highly valued work on "Urinary Deposits." It is almost entirely rewritten, and contains much additional matter, bringing the subject up to the level of the current knowledge of the day. We need say no more to induce all who are acquainted with the former editions, to add this much improved one to their library.

36. *Tuberculous Disease of the Kidney*.—Six cases of this disease are made the foundation of an essay by Dr. MARTIN DUNCAN, in the "Transactions of the Provincial Medical and Surgical Association."† In giving the history of the affection, the author states that scrofulous degeneration of the kidney is often confounded with the disease in question; from which it may be deduced that he does not hold the generally received, and we believe correct, opinion that the two diatheses are identical. The following is his description of the development of renal tubercle: A greater or less quantity of colourless plasma is effused by the capillaries which run between the tubes and among the fibres of the matrix. The effusion is scanty, and invisible to the naked eye, or at first homogeneous; but granules soon become apparent in it, many of which subsequently become enclosed in cell walls, and the tubercular deposit then consists of more or less fluid plasma, granules, and cells. As the effused product becomes solidified, the blood-vessels and fibres which it surrounds become absorbed from pressure. The uriniferous tubes are then pressed upon, and eventually the epithelium cells burst, and discharge oil globules, which coalesce, and, by their peculiar refractibility, point out the track of the tubules. Once deposited, the tubercular matter in the kidney, as elsewhere, undergoes certain changes, which the author minutely describes.

The conclusion of the essay is occupied with the discussion of the pathogenesis of tubercle in general, the author denying the dogma of a blood poison, of the elimination of which tubercle is the expression.

#### § VI.—Diseases of the Skin and Cellular Tissue.

37. *On Syphilitic Eruptions*.—A paper by Mr. HUNT, which has since appeared as a pamphlet, has for its object the inculcation of the danger of relying upon a non-mercurial treatment of syphilis, and the importance as well as safety of a mode of using that mineral, which he describes.

He commences with the *diagnosis* of syphilitic eruptions. This he tells us has nothing to do with the elementary form of the disease, whether a pule,

\* On Bengal Dysentery and its Statistics, with a Notice of Enemata in that Disease. Calcutta, 1850.

† Vol. xvii.

scale, pustule, or tubercle; neither is it a question of colour; the copper hue, so much insisted upon, is, he states, far from characteristic. We must, in order to arrive at a just conclusion, appeal to the history of the case.

Syphilis is well known to affect the tissues in a certain order; and when a patient, who has had the primary sore, appears with a suspicious skin disease, we generally find this order preserved. In hereditary cases the diagnosis is more difficult, as the order is lost; but we are then to inquire as to the health and morals of the parent. A copper hue is admitted to afford strong presumptive evidence, so does burrowing ulceration.

The most perplexing difficulties connected with the subject appear to the author to arise out of the dogma that mercury gives rise to diseases resembling syphilis. This he denies, for the following reasons:—

1. Symptoms resembling syphilis are never observed as a result of mercurialization where syphilis is neither inherited nor acquired. Were it so, he argues that we should here commonly see these syphiloid appearances as a consequence of the use of mercury in inflammatory disease. The cheeks and the gums, the lips, the throat, and the tongue, may all become the seat of mercurial ulceration; but the ulcers do not resemble those of syphilis; they are more superficial, less persistent, usually healing when the mercurial irritation subsides; and they never resemble syphilis in affecting distant parts in a certain order. In these and other respects they bear no resemblance whatever to syphilitic affections; and when the system is really free from lues, the difference between these mercurial ulcerations and the sores of syphilis, must be as obvious to the most superficial observer, as is the distinction between the *eczema mercuriale* and the *lepra syphilitica*.

2. The morbid effects of mercury are peculiar and well defined; and, with the exception of the ulcerations above described, do not even approach in character any form of syphilis; neither do they exhibit the slightest similarity to that disease. They are as follows: sore gums, salivation, loosening of the teeth, diarrhoea with griping, dysentery, (or green mucous evacuations in children,) extreme depression of the nervous system, accompanied with trembling of the limbs, infirmity of purpose, an undefined dread of evil or danger, with pusillanimity of mind, dyspepsia, rheumatism, *eczema mercuriale*, &c.

3. The occasional aggravation of syphilitic disorders, under the administration of mercury, may be rationally explained, and fully accounted for, without supposing it capable of originating a chain of symptoms, the character of which (if not the full development) had been established in the system long before the administration of a grain of mercury. The mode in which mercury, when used in excess, aggravates the syphilitic action, will be hereafter explained, without adopting the lame and impotent conclusion, that the remedy is capable of producing a disease similar to that which it cures, a conclusion which has always appeared to resemble more the visionary subtleties of homœopathy, than the sober realities of medical science.

In speaking of the *treatment* of syphilitic eruptions, the author just notices the alternative plan which is sanctioned in some of the London hospitals; this he condemns as useless, inefficient as regards the patient, and tending to leave the chance of infection to his offspring. The mercurial treatment is, he assures us, all sufficient, and also absolutely necessary, in spite of the objections which have been urged to its use. These objections he states to be threefold: 1, that it occasionally produces lesions more formidable than the disease for which it is prescribed; 2, that its use is not generally necessary to their cure; 3, that besides being unnecessary and injurious, it often proves inefficient and inert.

That there is much of real truth in these objections the author admits, but he thinks that there is likewise much fallacy. For as these diseases, in their secondary forms at least, rarely get soundly and permanently well without mercury, it may be said to be generally necessary to their cure; and, if rightly and vigilantly administered, it is generally successful. But both its safety and its success will be found to depend very much on its *mode of administration*, by which term is intended to signify something more than its *mode of introduction* into the system.

What this proper mode of administration is, the author next proceeds to demonstrate; but as we regard his views to be of considerable importance, we shall give them, as nearly as possible, in his own words:—

“Apart from theory, the case is practically this: Mercury generally exerts a salutary influence over syphilitic eruptions; but only for a time. It then does harm. Whatever be the reason of this, the practical conclusion is plain. We must then desist; and, if necessary, renew the treatment when the system has recovered from the shock. It is much safer to administer an active remedy, under the guidance of the observable phenomena of its action which present themselves to our notice, than in obedience to any theory deduced from extraneous sources. That the latter method has been prevalent, both in the excessive and in the too sparing use of mercury, is but too apparent.

“Every mineral used in medicine has some peculiarity of action, which can only be understood by long and attentive observation; and without a familiarity with these habits, we use the medicine at great disadvantage. Too much attention cannot be given to this subject. In order to show its important bearing, the action of mercury may be contrasted with that of arsenic. Thus:—

#### ARSENIC

Produces its maximum of good by slow degrees, and by continued and prolonged exhibition.

Has a cumulative action, the system becoming more and more sensitive to its presence, and intolerant of its influence, in proportion to the quantity swallowed.

May be given until the patient will not bear the five-hundredth part of a grain.

Affects the nervous system more readily at first, and afterwards the vascular system, the nervous tissues recovering their tone.

Should therefore be added to the blood drop by drop, *cautè et gradatim*, in diminishing doses.

#### MERCURY

Effects its salutary purposes often suddenly; always within a limited period; or, beyond that period, fails altogether.

Has no cumulative effects after the first few days; and the system becomes less and less sensible of its presence, and more tolerant of its influence, by its habitual use.

May be given until enormous quantities prove absolutely inert.

Affects the vascular system more readily at first, the nervous system suffering severely after a lengthened course.

Should be poured in suddenly, until it produces some effect, then as suddenly withheld for a time, and resumed, if necessary, with greater energy.

“That the vascular system may be gradually inured to the influence of mercury, so that doses which at first had the power of salivating, may at length be administered without producing any sensible effect; and that, in order to excite as ready an action by a second or third course of mercury, as by the first, the dose must be increased, if not doubled, must be well known to every practitioner. It is also matter of common observation, that the salutary action of mercury on diseased structure, is nearly contemporaneous with the morbid action of the mineral on the gums or other tissues. Accordingly, the common practice has been, not only to make the gums sore, but to keep them sore for days or weeks together, with a view to the continued and protracted effects of the remedy on the disease. As it was once believed that copious ptyalism was necessary to insure the full benefit of the mercurial treatment, so of late it has been generally held, that a continued, though moderate, degree of soreness of the gums is a necessary condition. This opinion appears, however, to rest upon no better foundation than the former now long exploded notion.”

Both the one practice and the other appear to be founded on the belief, that the morbid action of the mineral on the healthy tissues takes precedence of its salutary action on the diseased structure. Many years' close and anxious observation have established in the author's mind the opinion, that this is an

erroneous view. It is not easy to detect, in an ulcer or an eruption, the first appearance of healthy action; and it is clear that healthy action must exist for some little time before it becomes apparent. If, therefore, the gums first become tender, and the ulcer first presents an improved appearance, on one and the same day, it is fair to presume that the healthy action had been actually set up on the previous day, that is, antecedently to the morbid action on the gums. But further, close observation will generally reveal the fact, that the very appearance of improvement in the diseased parts exists before the gums are in any degree affected. The mercury has effected the good before it has effected the evil. The soreness of the gums, therefore, is a sign, not merely that the mercury has been pushed far enough, but that it has been pushed *farther than was necessary* for the establishment of healthy action in the diseased parts. If a drachm of strong mercurial ointment has been used every night for five successive nights, and if, on the following day, healthy action is substituted for diseased; and if, on the sixth night, the inunction is continued, the gums becoming slightly sore on the following day—in such a case as this, the mercury has been continued two nights longer than necessary: for the healthy action, which became apparent *after* the fifth night, must have existed the day before, though unobserved: consequently disease had been actually arrested by the fourth inunction; and the healthy action thus set up, would doubtless have continued, for a time at least, if the mercury had been omitted on the fifth and following nights. The injury inflicted on the gums, therefore, was wholly unnecessary to the immediate restoration of health. The effect has been sudden, and probably instantaneous—but will it be lasting? Probably not; and the practical question is: Would the effect have been rendered, in any degree, more permanent or satisfactory, by persevering in the mercury? It is now pretty well agreed, that no advantage would have resulted from salivation; for sores which had become healthy at the commencement of a mercurial course, have been but too frequently observed to retrograde under a protracted pyalism. And the same thing has been observed under a mild but long continued course, affecting the gums but slightly.

Under the mercurial irritation in any and every degree (whether from the consequent exhaustion of the *vis vitæ*, or from whatsoever cause), the latent virus, if any exists in the system, is liable to break out in an aggravated and destructive form. It is, therefore, not only useless, but in some degree dangerous, to persist in the use of mercury for a single day beyond the date of a visible improvement in the disease. It is, however, often necessary to have recourse to a second course, or even a third or fourth, in order to effect the final destruction of the disease. Each succeeding course must be more energetic than its predecessor; otherwise little or no effect will be produced. The courses should also be short and distinct, and should be so managed as to arrest disease without disturbing the general health. The case should be watched *day by day*, and an improvement in the disease, ever so light, be it real and satisfactory, should be regarded as the signal for arresting the course. Then aperients and tonics should be substituted for the mercury; and the very first appearance of a return of the disease indicates the necessity of a renewed administration of mercury in doses twice as large as the first. By this means disease may often be arrested in an incredibly short time; and when the system is again purged from the mercury, a third course may be administered as a preventive, suspending the mineral as soon as fetor is observable in the breath, or a bitter metallic taste complained of by the patient.

The whole of this practice, which has proved very generally successful, is founded upon the fact, that the action of mercury on the disease is sudden, and of short duration. It is that of a shock; and the impulse appears to be expended upon the organic nerves. In what way such an action on these nerves can permanently destroy a blood disease, it may not be easy to explain:\*

\* The rapidity with which diseased action is exchanged for healthy, under the influence of mercury, reminds one of the chemical changes produced by galvanism. We know little as yet of animal chemistry; but if we look at the action of mercury as electro-magnetic we shall be able to account for many otherwise obscure phenomena.

that the final results are not compromised by the limited duration of the mercurial action is quite certain. Indeed, the radical cure of the disease never proves so difficult as where mercury has been administered in large doses for many consecutive months. The debility thus produced, too often renders the system a helpless victim to the disease. Whereas, by short and vigorous courses, the vital powers are roused and invigorated, the appetite is increased, the digestive organs become active, sleep is procured, and the disease appears to yield rather to the *vis medicatrix nature* than to any specific anti-syphilitic virtues inherent in the mineral.

These views may appear opposed to the experience of many practical men, who, failing to effect a radical cure of syphilis by a short course of mercury, have seen the disease annihilated at length by a persevering use of the remedy for many weeks together, to the severe injury of the gums. Such cases occurred in large numbers in the early part of the author's practice; and it was once his opinion that the benefit was due to the unremitting use of mercury. More recent experience, however, has made it evident that the disease would have yielded quite as fully to a shorter course, and that the benefit derived from the continuous use of mercury was all due to the shock produced at the commencement of the course.

A very powerful yet incidental illustration of the principles above enumerated, has been furnished by a recent publication from the pen of Mr. Langston Parker. This gentleman has found that by a process of fumigation, the beneficial effects of mercury may be secured with more certainty and less inconvenience than by the usual methods. The advantage is evidently derived from the rapidity of absorption and consequent suddenness of effect. Mr. Parker's practice must, of course, be limited by its attendant inconveniences; but the principle is capable of almost universal appliance. We have had long experience of its value in the use of mercurial inhalation. The fumes of the oxides of mercury received into the forces have been found to produce the specific effects of the medicine when the system has been proof against inunction. But it is easy to apply the principle to any mode of introducing mercury into the system, which it may be found convenient to adopt.

It will be most needful, however, to be aware of the possibility of severely salivating the patient by an unguarded exhibition of a very few energetic doses. This danger will occur to the mind of every prudent practitioner, and will deter many from adopting the method of treatment above described. But the danger need only be foreseen to be avoided. We must make it our special business, before commencing the therapeutic course of mercury, to administer an experimental course, just to ascertain exactly the degree of mercurial susceptibility inherent in the constitution of the patient. This may be done in the most guarded way; and, if the patient be unusually susceptible, this first trial may prove therapeutical. If not, it will serve to indicate the dose which the patient will bear with impunity.

Neither must it be forgotten that we now and then meet with a subject wholly and incorrigibly intolerant of mercury; and, even if we can coax the vascular system to bear it, we irritate the nervous tissues beyond endurance. These cases are rare exceptions to a very general rule. Strumous subjects also are apt to bear mercury ill; but by combining the mineral with the preparations of iron, and giving the patient the advantage of the coast, the open air, and a mild season, the difficulty is often overcome, especial caution being requisite lest the gums or glands should suffer irritation. When pulmonary tubercles are discoverable, even in a latent form, mercury is to be avoided. Nothing is so likely to promote their development and maturation as a mercurial course. When syphilis and phthisis coexist, the case is hopeless.

## § VII.—*Therapeutics and Materia Medica.*

38. Under this section we have but little to notice, but we have the pleasure of announcing a third edition of Dr. NELIGAN's admirable publication, "Medi-

cines, their Uses and Mode of Administration."\* It is unquestionably the best compendium of therapeutical information in the English language, and will enable the practitioner to dispense with all other biblical aids of the same nature. The present edition embraces an account of the various new medicines which have been recently introduced, reaching even to kousso. A useful addition is also made in a table of foreign weights and measures.

39. *Electro-magnetism, Therapeutics of*.—We have at various times in former volumes noticed communications by Dr. Golding Bird and others on the valuable aid to be derived from electricity in its different forms in the treatment of disease. We have now to notice a small volume by Dr. FROBIEP,† translated by Dr. LAWRENCE, exhibiting the benefits of this agent in rheumatic and paralytic diseases.

The theory of the action of electro-galvanism in these cases which the author advocates is that of the absorption of some effusions which, according to him, is met with in all rheumatic affections, and of which he gives a minute description, as it occurs in the skin, cellular tissue, muscles, and periosteum, and sheaths of the nerves, in the latter case producing neuralgia. In confirmation of his views, the author gives an account of upwards of seventy cases in which he has been successful.

40. *Warburg's Tincture*.—Trials have been made of this nostrum in several of the London hospitals, and with considerable success, in diseases of an intermittent type, some cases of dropsy, &c. Its composition is not known with certainty; but it is supposed to be a tincture of plants of the same natural order as cinchona.

41. *New Antiperiodics*.—Chloroform has been pronounced by M. DELIOLUX to be a good substitute for cinchona; and the *Physalis Alkekengi*, or winter chorry, is proposed with the same view by M. GENDRON.‡

42. *Nitrate of Silver*.—Mr. HIGGINBOTTOM§ has contributed further observations on the therapeutic employment of the *Argentum Nitras*, in the following class of cases: simple inflammation, ulcers of various kinds, punctured and poisoned wounds, erysipelas, inflammation of the absorbents, gangrena senilis, and variola. The treatment is illustrated by cases.

\* Medicines, their Uses and Modes of Administration, including a Complete Conspectus of the three British Pharmacopœias, &c. &c., by John Moore Neligan, M.D., &c. Third edition, Dublin, 1851.

† On the Therapeutical Application of Electro-Magnetism in the Treatment of Rheumatic and Paralytic Diseases. London, 1850.

‡ Gazette Médicale de Paris.

§ Additional Observations on the Nitrate of Silver, with full Directions for its Use, &c. Churchill, 1850.

## II.

### REPORT ON THE PROGRESS OF SURGERY.

BY THOMAS WILLIAM CROSSE, ESQ., NORWICH.

THE past semestrial period has been, comparatively speaking, barren in subjects of interest connected with the Surgical department; we have, consequently, but a small amount of matter to notice in the present Report. The controversy on the subject of the treatment of stricture by perineal section, which is the *questio vexata* of the day, has gained in warmth in the same proportion as it has lost in interest. Personal animosity and violent writing have produced the necessary effect of causing both reviewer and reader to regard it with distaste. Some notice of it will, however, be found at a further page.

Few works on Surgery have reached us; among those before us, we mention the following:—

I. *A Practical Treatise on Diseases of the Urinary and Generative Organs in both Sexes.* By WILLIAM ACTON, Esq.

II. *On the Causes, Symptoms, and Treatment of Spermatorrhœa.* By M. LALLEMAND. Translated and Edited by HENRY MACDOUGALL, M. R. C. S., &c. Second Edition.

III. *Practical Observations on the Treatment of Stricture of the Urethra and Fistula in Perineo.* By JOHN LIZARS, Esq.

IV. *On reduction of Hernia en masse.* By GEORGE BLACKMAN, M. D.

These we shall notice under appropriate sections in this Report.

#### § I.—Injuries and Diseases of Blood-vessels.

1. *Aneurism. Treatment of, by Compression.*—The favourable evidence which has been adduced by Irish surgeons, in reference to the substitution of compression for ligature in aneurism, has not altogether gained the support of practitioners in England and Scotland. Mr. Syme has formally objected to it;\* but there appears to be so much rivalry between the schools of Edinburgh and Dublin, and indeed we may say with all other schools, more particularly in the department of surgery, that we are induced to receive remarks emanating from that quarter with some little reserve. Cases, however, will undoubtedly occur, in which, from some peculiarity in the vessel itself, or in the inosculatory circulation, compression will more or less fail; and such have been placed on record recently by Mr. PAGET. (See p. 224.)

—In the “American Medical Transactions,”† Professor DUDLEY relates cases pointing out the successful treatment of aneurism by compression in his practice as early as the year 1814.

—Mr. TUFFNELL has recently published a pamphlet, in which this mode of treatment is fully and candidly reviewed. In discussing the claims of different surgeons to the merit of preparing this bloodless operation, the author gives the chief merit to Dr. Bellingham, whose writings on the subject we have noticed in previous volumes; but he admits that Mr. Todd has tried the method twenty years ago. This, however, as we have just stated, is not its first application, as Professor Dudley’s operations occurred as long as thirty-eight years since.

\* Edin. Med. and Surg. Journal, Jan. 1851.

† Vol. iii. p. 340.



The opinions of Mr. Tuffnell respecting the cases to which compression is applicable are, that it may reasonably be adopted "in any circumscribed aneurism in an extremity, where there is sufficient room for the application of the compressing medium at two different points above the tumour, premising that pressure on the trunk of the vessel completely controls pulsation in the sac."

He does not advise it in cases in which the aneurism is rapidly increasing, or does so after compression has been tried; neither would he sanction it where the disease has run on unchecked, and where, from the oedematous state of the limb, there is reason to believe that the venous circulation is interfered with.

After some practical suggestions as to the mode of applying the apparatus, for which we refer to the original, Mr. Tuffnell gives a statistical account of the operation. It appears that in 39 cases treated in Dublin between 1842 and 1851, the cure had been perfect and complete in 30; in one, compression was discontinued, the aneurism remaining stationary; in two, the ligature was subsequently applied with success; in three, amputation was required. One of these died from erysipelas. Two died from coexisting disease of the heart. This is a greater amount of success than can be shown for ligature.\*

2. *Femoral Aneurism. Compression.*—A case, completely successful, has occurred to Mr. COLLIS, and is thus given. John Scott, an intelligent, healthy-looking man, æt. 29, a glass-blower, was admitted into Stevens' Hospital, January 5th, 1851, on the recommendation of my friend, Mr. Fleming. He states that, with the exception of an attack of syphilis, for which he was salivated five years since, he has always enjoyed perfect health; for the last year he has been a teetotaler, but previously to that time he was in the habit of drinking freely; he, however, remarked "that latterly his wind was not as good as others" employed in the same laborious trade. On December 21st, after a hard day's work, he felt a tremor in the right leg; he is certain that no tumour or extraordinary pulsation existed there at that time.

On December 23d he first perceived the tumour, after suffering agonizing pain in the thigh and down the limb. Since then, the pain continued, attended with numbness of the leg and foot preventing any motion.

On examination, a tumour about two inches long, and one and a half broad, was felt at the junction of the lower and middle third of the femoral artery. It is soft and compressible, expanding and contracting synchronously with the pulse in the artery. It does not give the definite rounded sensation of a tumour lying over the artery, as is generally perceived in aneurisms in this situation, but seems rather to be a dilatation of the tube itself, which can be traced anteriorly and laterally, gradually expanding, and again gradually contracting to resume its former size. The artery would seem to enter and pass from the centre of the tumour. There is slight oedema, with coldness and numbness of the leg and foot. There does not seem on physical examination to be any abnormal condition of the heart or great vessels, except, perhaps, some tumultuous action of the abdominal aorta. He was admitted into hospital on the 5th January, kept in bed, and subjected to sedative treatment, until the 12th, when pressure was applied by means of Mr. Read's pelvic instrument. As the pain attending the pressure was so severe, requiring the constant change of the position of the pad, and he had not himself that knowledge of the principles of cure which so materially assist the treatment, the pressure was not very steadily or efficaciously applied until the 26th; still, during that time, it was found that the tumour became smaller and harder, as if consolidation were commencing. On the 26th he was removed to a private room, watched more carefully, and pressure more effectually applied by means of two instruments, one Read's pelvic compressor, with Dr. Carte's elastic bands, at the groin, and another circular one lower down. He could himself now command the circulation while changing the instruments, which, from the severe pain caused, required to be done

\* Practical Remarks on the Treatment of Aneurism by Compression, with Plates of Instruments hitherto employed, and the recent Improvements by Elastic Pressure, by S. Tuffnell, M. R. I. A., &c. 1851, pp. 124.

† Dublin Journal, May 1851.

every hour, or sometimes even every half hour. The pressure at the groin, however, commanded the circulation more easily, and with much less pain, than that lower down.

Feb. 12th, eighteenth day. On loosening the pad the pulsation can be felt at the tumour, which, however, at present is small and hard. He has now become impatient, suffering so much pain, and despairing of a cure by the pressure, that it is with difficulty he can be prevailed upon to continue the treatment. He seems to be in a state of excitement; his arteries, especially the femoral, beating turbulently.

17th, twenty-third day.\* The cure is now complete; and he says that he was quite aware of the moment in which the perfect obliteration of the artery occurred. The pressure was continued two days longer, and the limb was kept quiet for a fortnight afterwards, before he was allowed to use it.

Mr. Colles has seen him since, and the tumour is quite hard, about the size of a marble; the artery can be traced pervious to the tumour, but not beyond it.

There are a few points in this case which Mr. Colles thinks worthy of remark. First, from the peculiar nature of the tumour it had every appearance of being that form of aneurism described by Breschet as the "fusiform," a dilatation of the entire circumference of the artery at one part of its course, all the coats remaining perfect. This form of aneurism is one which Breschet says is least favourable to the cure by ligature; a form in which we do not often find those layers of fibrin or coagula, which so materially contribute to the consolidation of the tumour, and therefore a form of aneurism least likely to terminate without the assistance of art, by the so-called "spontaneous cure." For these reasons, also, it was a form in which the pressure cure did not hold out much prospect of success; so that, although it was resolved to give the pressure a fair trial, yet it was not with any favourable anticipation of so fortunate a result. It is also worthy of remark that in a very short space of time there was an alteration apparent in the tumour, which became harder and smaller after the irregular pressure applied during the first three or four days; yet afterwards, when the pressure was more regular and uniform, the progress towards cure seemed stationary, the artery remaining pervious, and even acting more violently than usual, the day previous to its final obstruction; so that, notwithstanding the progress to cure may seem stationary, yet Mr. Colles considers that if we find at any time any improvement has occurred, or even that the disease has not become worse, it should encourage us to persevere, with a confident expectation that some progress is still going on towards the cure, though it may escape the scrutiny of our senses.

In all the cases Mr. Colles has seen, the patient suffered considerable pains; with this man the suffering was, however, more than usual. The pain he very accurately divided into two distinct kinds: one, the pain generally attending aneurism, here aggravated by the pressure both of the instrument and the tumour; the pain is not relieved by time, but generally increases in severity; especially a day or two before the final cure. The pain and œdema can only be relieved by flannel rollers, and position of the limb. The other kind of pain is a burning or scalding sensation, limited to the part over which the pad is placed, and which required constant change in the position of the pad. This pain may be neutralised by dusting the part with absorbent powders, or a thick coating of collodion.

Mr. Colles does not hesitate to state his opinions of the superiority of compression over ligature.

3. *False Aneurism of the Radial Artery.*—The following case, in which compression was successfully employed for false aneurism, occurred in M. VELPEAU'S practice:—

"A coach-guard, æt. 30, on the 16th of January, was stabbed in the lower and anterior part of the right forearm with a knife, and, when admitted into La Charité, at Paris, on the 30th, stated that the direction of the wound was

\* The twenty-third day from the application of the two instruments; the thirty-seventh day from the commencement of the treatment.

obliquely outwards and downwards; that the integuments united within three days under the use of graduated compresses, which were applied by a medical man immediately after the stab had been inflicted; but that a vast ecchymosis at the same time extended from the forearm to the axilla, while a large tumour made its appearance about the cicatrix. The compresses were reapplied till the ninth day after the stab. On their removal, the tumour was found to be more circumscribed, and to beat synchronously with the pulse. When examined in the hospital, there was seen, half-way between the wrist and elbow, a little inside the normal course of the radial artery, and on a level with the point where the inner border of the supinator longus in muscular subjects begins to cover the vessel, a tumour of the size of a small hen's egg, and evidently aneurismal, as shown by all the usual signs. The patient was left without treatment till the 8th of February, *that it might be seen what would become of the tumour*. On the 9th, M. Velpeau applied Petit's tourniquet, and compressed the humeral artery against the bone, on a level with the inferior attachment of the coraco-brachialis muscle. A refrigerant mixture, consisting of two parts of ice and one of gray salt, was applied to the tumour for seven or eight minutes. The tourniquet was ordered to be relaxed in the evening, if the swelling of the arm proved too great. In the evening, the swelling being excessive, the colour of the limb a dark violet, and a large phlyctena having formed over the whole part which had been in contact with the frigorific mixture, the tourniquet was slackened, and next morning removed altogether. From this time pulsation ceased to be felt in the tumour, which rapidly diminished in bulk; and, when the patient was last seen by the reporter, its size did not exceed that of a hazel-nut. The pulsations of the radial artery below the tumour were greatly enfeebled soon after the application of compression, but soon regained their usual force."\*

4. *Aneurism of the Popliteal Artery, treated by Compression*.—The case just alluded to, as recorded by Mr. PAGET, is that of a medical man, who himself superintended the carrying out of the method by pressure. The treatment, by means of Dr. Carte's apparatus, was commenced on January 31. Two instruments were applied, and alternately tightened and relaxed. These caused great pain; and, after the fourth week, were changed for the Italian tourniquet. From this time till the 16th of February, the size of the aneurism decreased; but, after ten days, no further progress was made. On the 21st of March the diminution recommenced; and by the 18th of April it was reduced to the size of a hazel-nut, but still pulsated freely. After eleven weeks' confinement, the patient's patience became exhausted, and he wished to move about; but modified pressure was kept up for six weeks longer, when pulsation one morning suddenly ceased, and the aneurism was cured.

In commenting upon this case, Mr. Paget remarks, that the disease was, probably, as in Mr. Colles' case, an example of aneurismal dilatation, or, as Mr. Luke has named it, tubular aneurism; an aneurism of the cylindriciform or fusiform variety described by Cruveilhier—that is, a dilatation affecting, almost uniformly, the whole circumference of the artery in a certain portion of its length. Such dilatations are very rare in the popliteal artery; yet that such an one existed here is made very probable by many things observed in the case, and especially by the great diminution of size of the aneurism while under treatment.

The cure of popliteal and other similar aneurisms, whether treated by pressure or ligature, is usually accomplished much more by the filling of the sac with blood-clot, than by the contraction of the sac. Hence, usually, after the pulsation has ceased, the swelling, with comparatively little diminution of size, remains firm and nearly solid, till slowly its size is diminished by the absorption and shrinking of its contents. When, however, as in the case here related, a popliteal aneurism consists in a dilatation of the whole circumference of the artery, we may believe that there is the same indisposition to the formation of clot as in the similar dilatations of the arch of the aorta, and of other great

\* Gazette des Hôpitaux, and Edin. Monthly Journal, April 1851.

arteries in which no part of the dilatation is far remote from the main stream of blood. In all these cases it is matter of common and just observation, that fibrinous deposits are scanty and rare; and, therefore, in the similar dilatations of the smaller arteries, we might expect that the effect of any continued obstruction of the trunk would be the gradual contraction of the dilated portion, rather than its filling up with clot.

Other considerations, he thinks, strengthens this opinion of the nature of the case here related; especially, first, that as the enlargement of the artery after the injury was very slow, there was probably no rupture or serious damage of its coats, but such a change as might lead to their slow and extensive impairment of structure; and, secondly, that the sensation derived from the touch of the dilatation was always that of a sac tensely filled with fluid, and containing no clots, such as are almost constantly found in saccular aneurisms—*i. e.* partial or lateral dilatations of the arterial walls.

The results of the treatment of this case by pressure on the trunk of the artery above the aneurism, may next deserve comment. Considering that the patient was instructed in surgery, and well understood the plan on which the treatment was to be conducted, that he had himself chosen this plan of treatment and submitted to it without interruption, and that it was attended with no local injury or other inconvenience, few cases, the author thinks, could have been better suited to the plan; yet so long a period elapsed prior to the cure, that he would not advise it in preference to ligature. He does not, however, discountenance compression, being disposed to attribute its tediousness, in the present case, to the peculiarity of the tumour above alluded to.\*

5. *Aneurism of the Internal Carotid.*—Professor BUSH describes a remarkable case of aneurism which came under his observation. The patient was a mechanic, æt. 25, and had for some years complained excessively of his head. The right eye was remarkably prominent, and was seen to pulsate distinctly. The transverse suture at the outer corner of the eye was opened sufficiently to admit the end of the finger. A large portion of the os frontis, os temporis, and temporal plate of the sphenoid, and a portion of the parietal bone, were disjoined and elevated some lines by an aneurism of the internal carotid artery. The sight and hearing on that side were destroyed. After preparatory treatment for three weeks, the carotid was tied, with immediate cessation of the pulsation and relief of the noise in the head. By the second week following the operation, the tumour had so far receded, that the disunited portions of the cranial bones had recovered their proper position, while sight and hearing were restored.†

## § II.—Injuries and Diseases of Bones and Joints.

6. The bibliography on the subject of the present Section since our last Report, is not extensive; but it must include one work at least, the reputation of which is too well established to require commendation from us. We allude to a new edition of Sir B. BRODIE's well known and highly esteemed monograph on "Diseases of the Joints." There are also two others requiring a brief notice as new productions, viz.,—one by Dr. CARNOCHAN, on "Congenital Dislocations of the Head of the Femur;"‡ and another, by Dr. SANTesson, on the "Hip-joint and its Cartilages;" reviews of which will be found in the "British and Foreign Medico-Chirurgical Review" for April, and the "Dublin Quarterly Journal" for February, of the present year.

—In Dr. Carnochan's work, we have a full and exact description of congenital dislocation of the hip-joint, the literature of which is, at present, but scanty, the monographs of Dupuytren and Pravaz, with some isolated reports of cases,

\* Medical Gazette, April 15.

† Transactions of the American Medical Association, vol. iii.

‡ Treatise on the Etiology, Pathology, and Treatment of Congenital Dislocations of the Head of the Femur, with plates, by J. M. Carnochan, M. D. New York, 1850, pp. 235.

Om Håfleden och Ledbrooken uti Anatomiskt, Pathologiskt och Chiruriskt hauseende, &c. Afhandling af Carl Santesson, M. D. Stockholm, 1849.

being, until the publication of the present volume, the principal sources of information on the subject. The causes of the deformity are obscure. Petit ascribed it to violence to the mother during the intra-uterine life of the foetus: Dupuytren to arrest or perversion of developmental force; Chaussier to deficient nervous supply. The author's opinion is, that it is due to a spasmodic retraction of the muscular tissues, consequent upon excito-motory disturbance.

The symptoms of double dislocation are well described in the following extract:—

"Upon viewing an adult in the erect posture with double dislocation of the femur upon the ilium, the forward curve of the lumbar region, and the convexity of the anterior wall of the abdomen, are the first characteristics which attract the attention of the surgeon. The pubic region appears to be tilted forward, while the lower part of the trunk appears to have sunk down between the thighs, giving the arms the appearance of being relatively too long.

"Both of the great trochanters project abnormally, and are seen to have mounted considerably higher, so as to be situated nearer than is natural to the crests of the ilia, forming, with the retracted muscle which surrounds them, an unusual eminence, somewhat rounded on each side, at the superior and lateral part of the hip, while the lower and posterior portion of the nates is generally flatter than in the healthy condition of this region. The tuberosities of the ischia, carried outwards and more apart from each other, are denuded of muscular tissue, and covered only by the integuments.

"The fold in the groins is deeper, its direction less transverse and more vertical, and the usual niche between the buttocks and the thighs is placed higher, and more curved outwardly than it ordinarily is.

"The thighs sometimes retain their normal direction; at other times they take an oblique direction from above downwards and inwards, forming with the leg, at the femoro-tibial junction, an angle obtuse outwardly, while the knee presents internally an unusually acute angular aspect.

"As a consequence of this ascent, the psoas magnus and iliacus internus muscles of either side are put upon the stretch, and draw forward the lumbar and lower dorsal vertebrae, and thus in the most marked degree can be seen the unnatural excurvation of the loins, with the corresponding exaggerated convexity of the anterior region of the abdominal parietes. Dupuytren says, '*ils ne touchent le sol que par la pointe des pieds.*' Observation, however, goes to contradict this assertion of the celebrated French surgeon. It would seem, in fact, that in the passive erect attitude, the patient can rest fully upon the soles of both feet; but while the heel is descending to the ground, the lumbar region becomes still more incurved, owing to the increased traction then exercised on both sides by the tendons of the psoas magnus and the iliacus internus.

"One of the most characteristic differential signs of congenital dislocation of the head of the femur upon the dorsum ilii, is the disappearance, as soon as the patient is placed horizontally on the back, of most of the symptoms observable to the eye when he is standing in the erect posture. The superincumbent weight of the trunk is then removed, and the muscles around the articulation now permit the great trochanters to descend to a nearly natural position; and as the small trochanters also approach their normal situation, the psoæ and internal iliac muscles become relaxed, and thus the curvature of the loins, and the corresponding convexity of the abdomen anteriorly, become diminished or effaced.

"By the aid of manual examination, signs are discovered not less worthy of note than those which are observed by mere inspection. If traction upon the limb be exercised, so as to act from above downwards, the limb becomes elongated, the head of the femur descends, the great trochanter becomes more separated from the crest of the ilium, and the projection they previously formed is found to have diminished; while, on the contrary, if force in an opposite direction is applied, that is, from below upwards, the head of the femur does not meet with resistance at the natural locality of the acetabulum, but mounts with facility to its abnormal position upon the dorsum ilii. The evidences of this symptom have been denied, and they have been attributed to a want of proper precaution in fixing the pelvis, while the traction was made upon one side; but in those cases where the dislocation exists on both sides, both limbs

can be made to descend at the same time, and often to the same extent, when they are both simultaneously pulled upon. The only exception to this symptom occurring, is when the head of the femur has escaped from the natural capsule in which it was originally enclosed, and a new socket has been formed upon the dorsum of the ilium.

"An adult person labouring under the effects of dislocation of the heads of both femurs presents peculiarities in his gait during the diversified efforts of using the inferior extremities, which are not to be met with in any variety of lameness resulting from the other maladies occurring at the hip-joint. In walking, owing to the want of fixedness of the heads of the femurs, and the displacement which they must undergo of alternate depression and elevation, according as the weight of the body is transferred from one inferior member to the other, and also owing to the strain which is put upon the psoas and the internal iliac muscles upon the side where, for the moment, the weight of the trunk is thrown, a kind of double lameness is produced, somewhat resembling the hobbling motion of the duck. 'The subjects so affected, when about to commence walking, are seen to elevate themselves upon the point of the feet, to incline the superior part of the trunk towards the member which is about to support the weight of the body, and to lift the other with an effort, in order to bring it forward in advance. At this moment one of the great trochanters—that which corresponds to the column of sustentation—appears to become approximated to the crest of the ilium in a greater degree than while standing upon both feet. From this mobility in the vertical direction, oscillations of the trunk take place, which render the walk as inconvenient as ungraceful. These oscillations are often accompanied by a crepitating sound, loud enough to be heard at a distance of several paces.'

"Contrary to what might have been anticipated, the effects resulting from the abnormal condition of the heads of the femora, after they have lost their natural support at the cotyloid cavity, and have mounted on the dorsa of the ilia, are less observable during the acts of running, leaping, dancing, &c. than during simple or slow progression. This can be accounted for by the energetic contraction of the muscles surrounding the hip-joints retaining the heads of the femurs in a more fixed position during these quick movements, and by the rapid transfer of the weight of the trunk from one extremity to the other, which does not allow time enough for the heads of the femurs—thus somewhat solidly held by the muscles—to pass through their accustomed range along the external surface of the iliac bones. Protracted locomotion, however, of any kind, is not well borne by individuals thus affected.

"As regards isolated movements, which can be produced at the ilio femoral articulation thus affected, by imparting motion to it through the lower extremity, we find that rotation can be performed without much impediment. Extension and adduction are easy, but abduction can only be accomplished to a slight extent. Flexion can be produced with great ease."

The pathological appearances are thus given in the seventh chapter:—

"The morbid appearances to be met with in this dislocation, vary according to the age of the individual, and to the extent of the alteration which has occurred in the tissues adjacent. . . . .

"If the examination be made during the foetal period, or shortly after birth, the cotyloid cavity is found to be but little altered in its shape and dimensions, and is capable of receiving the head of the femur. The period at which this cavity begins to alter in shape and size is not the same in all cases; it is probable, however, that beyond the twelfth or fourteenth year of age, the changes which this cavity has undergone have so far destroyed the normal relations of the joint, that reciprocal adaptation would be impossible.

"The acetabulum, surmounted by its fibrous border, at the earlier periods of this displacement, is generally found to present a depression on the superior and posterior part of its margin.

"The head of the femur now rests upon the margin of the acetabulum, or upon the ilium near its circumference, and presents but little deformity, retaining its hemispherical appearance, except upon its inner aspect, where it is sometimes flattened, from resting upon the ilium.

"The capsular ligament is elongated, as also the ligamentum teres; the structural integrity of both, however, is still maintained, and the capsule at this early period has been said to resemble an hour-glass, large at its pelvic and femoral attachments, and small at its centre. The capsule is put upon the stretch by the ascent of the head of the femur, which is still kept from direct contact with the external surface of the os ilium by an intervening layer of the capsule.

"The separation between the acetabulum and the head of the femur becomes gradually greater, owing to the progressive ascent of the latter upon the ilium.

"The cotyloid cavity, in the progress of the affection, tends to become contracted, and to assume an oval or even a triangular shape, approximating, as it were, to the primitive form of the acetabulum during fetal life, before its three component parts have arrived at the period of osseous consolidation. The acetabulum remains sometimes, however, nearly circular, and presents upon its upper semi-circumference a depression of a somewhat crescentic form, which allows the head of the femur to pass to and fro from the dorsum of the ilium into its original receptacle, now deprived of its cartilaginous lining.

"The head of the femur becomes altered to as great an extent as the cotyloid cavity, and the neck, also, soon participates in the progressive alterations.

"The head loses its spherical appearance, and becomes changed in its dimensions and texture. The articular cartilage, with which it is invested, having lost its relations with the articulating surface of the acetabulum, and not being naturally supplied with the synovial fluid, or with its usual amount of vascular nutrition, gradually undergoes mutations which lead to its ultimate disappearance, particularly where the head comes in direct contact with the osseous tissue of the ilium. The aspect of the head, where the round ligament ought to be inserted, often presents a flattened surface, denuded of its articular cartilage, a thin brittle shell of bone only covering the deteriorated cancellated interior structure of the head. The neck of the femur is also small, short, and stunted, and assumes a more horizontal direction to the axis of the femur than is usual, the head being more on a level with the trochanter major, and losing its normal obliquity in relation to the shaft of the bone."

The author's account of the treatment is unsatisfactory, and is chiefly derived from the writings of Pravaz. Remedy of the deformity has been attempted by division of the retracted muscles and scarification of the acetabulum, and in some cases with success; but, at the best, considerable lameness remains.

—M. SANTÉSSON'S work is a pathological rather than a practical contribution, and embraces the entire subject of the diseases of the hip-joint, including, therefore, the congenital luxations. The language being one with which we cannot claim acquaintance (Swedish), we acknowledge our obligation to the "Dublin Quarterly Journal" for the subjoined notice of chronic disease of the hip, the "*morbis coxæ senilis*," or "*Oophytis senilis*," as the author proposes to call it.

The disease consists in inflammation of the different structures of a joint, generally believed, but denied by M. Santesson, to be of a rheumatic character. The patient is, however, peculiarly subject to the influence of the atmosphere, and exhibits many of the characters of that diathesis. The author describes, with great accuracy, the various changes in the joint thus affected; but adds nothing to our knowledge either on this joint or in his account of the symptoms of the disease. In the treatment he advises repeated local bleeding in the first instance, and a modification of hydropathy instead of counter-irritant lotions. He approves of nauseating medicines in large doses, and calomel with the yellow sulphuret of antimony, with full doses of Dover's powder at night.

[In one or two cases of this disease which have recently come before us we have derived marked benefit from electro-galvanism, with the phosphate of ammonia internally, attention being paid, at the same time, to the hepatic and renal excretions, omitting wine and malt liquors, and a persevering use of cold douches to the joint. Sir B. Brodie speaks highly of cod-liver oil; and, from what we know of its efficacy in ordinary rheumatic gout, we should have great

faith in its action on the disease in question. When this has proceeded to the length of causing "eburnation" of the surfaces of the bones, no benefit can be expected from any treatment.—Ed. H. Y. A.]

7. *Mechanism of the Hip-joint.*—Mr. HOLDEN,\* having inquired into the mechanical conformation of the hip-joint, concludes, naturally enough, that nature is right in placing a ball-and-socket joint in that situation, as the only one calculated to fulfil the requirements of locomotion. He says:

"By making sections through the fresh joint, it is observed that the respective surfaces of the head of the femur and of the acetabulum form segments of spheres of equal diameters, and that therefore they are accurately adapted each to the other. If we institute a comparison between the ball and socket of the hip, and the ball and socket of human contrivance, the great superiority of nature's work is at once evident. In the artificial ball and socket, it is essential that the socket form more than half a circle, else the ball would not be retained in it; the range of motion is therefore necessarily limited, since the stem to which the ball is fixed soon comes in contact with the margin of the socket. But the human acetabulum is part of a circle of less than  $180^{\circ}$ ; and therefore the head of the femur has a very wide range of motion, as one may see in the tricks of mountebanks, who can raise their legs to their shoulders, and fall on their buttocks with their legs stretched out at a right angle.

"In order to deepen the acetabulum, and to render it air-tight, its margin is provided with a ring of fibro-cartilage, commonly called the cotyloid ligament. This is a flexible, gradually shelving lip, which, by virtue of its elasticity, embraces the head of the femur. Its component fibres run parallel to the margin of the acetabulum, and pass uninterrupted across the notch at the lower part of it. The use of this elastic ring is to act like a valve or sucker to the acetabulum, and to keep it, as it were, hermetically sealed. The capsule of the hip may be completely distended with fluid, without any risk of the fluid entering the acetabulum, so long as the sucker is in proper action. But let ever so small a quantity of fluid be secreted within the acetabulum, the consequence is, that the head of the femur ceases to be in accurate contact with its socket; the sucker is presently raised by the junction of the fluid within and without the acetabulum, and thus it happens that the limb not only becomes lengthened, but it may even be spontaneously dislocated, provided the ligaments have sufficiently yielded.

"In the ball and socket of human contrivance, it is obvious that the ball is held fast by the constriction of the mouth of the socket itself. But in the hip-joint, the power which holds the head of the femur in the acetabulum is atmospheric pressure. From the very construction of the parts, any one in the least degree familiar with natural philosophy will see at once that it must be so. But it is easily proved by direct experiment. If all the soft parts, including the capsule, be removed from the joint, we find that the head of the femur is still held in the acetabulum, and that it requires a very considerable force to pull it out. The precise amount of this force can be readily estimated by ascertaining the superficial area of the acetabulum, and allowing 15 lbs. for every square inch of surface. But, without making any such calculation, it may be asserted that the amount of atmospheric pressure is more than sufficient to sustain the weight of the entire limb when freely suspended in the air.

"Now the object attained by the limb being held in its socket by atmospheric pressure is, the saving of muscular exertion in locomotion. The head of the femur, supported by the air, moves with the greatest freedom, and with the least possible amount of friction, in the acetabulum; so that, in walking, the hinder leg, once raised from the ground, swings, by the mere force of its own weight, in advance of the other. During this spontaneous movement of the leg, all its muscles are in a state of complete repose. This fact explains, what is matter of common observation, why a man can walk, during a given number of hours, with less fatigue than it would cost him to stand still.

"Such being the organisation of the hip-joint, one might suppose that the range of its motion would be almost as free as that of the shoulder. But, since

\* Medical Gazette, Feb. 21, 1851.



this would ill accord with the security of the erect posture, we find that nature has restricted its motion in certain directions by means of ligaments extending from the pelvis to the thigh. Of these there are two, the *capsular* and the *round*.

"The *capsular* ligament not only serves to strengthen the joint, but plays a most important part in restricting the motions of the thigh. In a general way it may be said that the upper end is attached round the margin of the acetabulum, and the lower to the base of the neck of the femur; not, however, round its entire circumference, as is commonly described, but only along its front and upper part. At its back part the capsular ligament simply embraces the neck in the same manner as the annular ligament embraces the head of the radius. Now the anterior part of the capsule is remarkably thick and strong. It is, indeed, the strongest ligament in the body—stronger than the *tendo Achillis* or the *ligamentum patellæ*. To understand its purpose and design, we should observe that it descends from the upper part of the circumference of the acetabulum, downwards and outwards to the anterior inter-trochanteric ridge of the femur, this ridge being specially intended for its attachment. In the erect posture, this part of the capsule is fully on the stretch, and, therefore, it limits any backward movement of the thigh on the pelvis, or of the pelvis on the thigh. Besides, however, its power of limiting backward movement, a glance at its attachment shows that it limits adduction of the thigh—in other words, it prevents the pelvis from rolling towards the opposite side, while we are standing on one leg; and in this latter respect it co-operates, as will be seen presently, with the *ligamentum teres*.

"The posterior part of the capsular ligament, which simply embraces the neck of the femur, may very properly be called the annular ligament of the hip. One sees clearly why it should not have been attached to the femur; for had it been so, it must of necessity have presented an obstacle to the free bending of the pelvis on the thigh—as, for instance, in sitting or stooping.

"Lastly, we have to consider the action of the *ligamentum teres*. This is placed inside the acetabulum, and it is attached respectively to the borders of the acetabular notch and to the head of the femur. Its presence in the acetabulum would have prevented the accurate adaptation of the ball and socket, if the bottom of the socket had not been excavated expressly for its reception and free play. The room not occupied by the ligament is filled up by soft fat, which serves merely a mechanical purpose.

"The reason why anatomists have been generally misled as to the use of the round ligament is, that they have not properly calculated the true inclination of the pelvis, and consequently the precise direction of the ligament in the erect posture. The pelvis in the erect attitude is so inclined, that it forms with the horizon an angle of  $60^{\circ}$ . Now if a pelvis be held at this angle, we find that the notch to which the ligament is attached will be at the lowest part of the acetabulum. Again, by making a vertical section through the head of the femur, we may ascertain that the ligament, in the *erect position*, is not only vertical, but fully on the stretch. Consequently its action is to assist the anterior part of the capsule in preventing the tendency of the pelvis to roll over towards the opposite side—i. e., while we are standing upon one leg.

"Upon the whole, then, it appears that the disposition of the ligaments is such as to maintain the pelvis steadily upon the head of even one thigh bone, without the co-operation of any muscles except those which counteract the tendency of the trunk to fall forwards.

"Besides its peculiar action as a ligament, the *ligamentum teres* serves to convey blood-vessels to the head of the thigh bone. This fact is at variance with the statements of many modern anatomists, who affirm that the blood-vessels do not enter the head of the bone, but return in a loop-like manner."

8. *Excision of the Hip-joint*.—This severe operation has, as may be seen in our former volumes, been successfully performed several times during the last two or three years; but some definite knowledge of the cases most suitable for the operation, as well as to the period in the progress of the disease, which ought to be preferred, is still a desideratum. To supply such has been the

object of a communication to the Medical Society of London by Mr. HAYNES WALTON,\* which we proceed to notice:—

The author observes, that much difference of opinion existed among surgeons of eminence respecting the propriety of excision of the hip-joint. He approves of it under certain restrictions, but thinks some information is required in reference to the question. At what stage of the disease of the hip-joint should excision be performed? To answer this, he considers that two conditions must be taken into account—first, the state of the local malady; and the next, that of the system at large. *First, then, of the local affection:—* In the aggravated cases of hip-joint disease, (the milder ones do not fall within the scope of his remarks,) the conservative powers of the system are sometimes exercised in an astonishing degree; but, unfortunately, they often fail, and the patient dies, worn out by protracted suffering, little or no attempt at repair being made. It was then, he observes, in those cases where the powers of the system have been prostrated from the local irritation, where the last chance of a natural though vicarious cure has departed, that he thought surgical aid, by means of an operation, *may sometimes* be resorted to. He did not think it necessary to prove formally that it was disease of the osseous tissue of the joint that perpetuated the evil of morbus coxarius, and in the treatment of which we were so much baffled. It is well known what severe and continued sufferings a limited extent of diseased bone will cause. Of this he adduced two instances. In the "Edinburgh Medical Journal," vol. xxxvi. p. 257, Mr. Syme spoke of a thigh-bone in his possession, which he had taken from the body of a woman who had laboured under caries of the trochanter major for thirteen years; yet the whole disease could be covered by the point of a finger, and was not thicker than a sixpence. He had met with a more remarkable case than even that, as far as time was concerned—that was, with a little more disease in the neck of the femur, but very little more, seventeen years were spent in suffering. *Respecting that general condition of the system that coexists with the local affection, with reference to the admissibility of an operation,* the author remarked that suspicions of the unsoundness of the lungs, or of some of the abdominal viscera, may fairly be entertained or suspected in most or all the cases in the last stage of morbus coxarius, and hence the imperative necessity of accurately examining these organs in order to obtain correct information. If disease be detected, it was obvious that operative interference would be imprudent; even with negative evidence of soundness, it might be a question whether it would be advisable to interfere. Equally important to rejecting a patient that was diseased, was it not to submit one to operation who, although sound in vital organs in the strict sense of the word, was prostrated beyond the chance of recovery. The author inquired if the low and depressed state in which those patients lie for months may not cause such mal-nutrition and mal-assimilation as to lay the foundation for the internal development of tubercle; and if that were so, whether that was an additional argument against the operation being deferred too late. The next important question to be ascertained was, the extent to which the bony structure of the hip-joint was usually diseased, and under what amount of implication might we be justified in operating at this critical period? It is found in surgical authorities that the acetabulum was as frequently the seat of disease as the head of the femur; but the author questions the accuracy of that statement. The specimens met with in our museums ought not, he thought, to have much weight, because they were not sufficiently numerous, and because, generally speaking, the more aggravated a disease, or the greater its rarity, the more readily was it chosen for a museum. But, apart from that, there can, he continues, be no doubt that there was a reparative power displayed in an unhealthy acetabulum that was not met with in a like manner in the head of the femur when it is diseased, the morbid acetabulum often getting well while the other bone remained unsound, and caused the death of the patient. The implication of the os innominatum was the great argument used by those who have doubts about the propriety of the operation, or who dis-

\* Reported in Medical Times, Dec. 1851.

countenance it altogether; and whether the part was or was not diseased, necessarily hinged the great difficulty of deciding on operative measures. The author thinks it most probable that few operations would succeed, were they executed when the acetabulum was unsound. When the usual characters that denote disease of the pelvis are absent, and when the head of the femur is dislocated, he thinks it may generally be assumed that the acetabulum is healthy. Yet, he observes, that negative, and not uncertain evidence, may not, from individual peculiarities of cases, be capable of any general application; but fortunately, a critical point in the diagnosis, *the position of the head of the femur* may frequently be ascertained. The finger may be passed through some one of the many sinuses that now riddle the soft parts over the joint, or it may be ascertained by a slight exploratory incision either in a sinus or through sound skin, a practice which, in many cases, with reference to saving life by the operation, he holds to be perfectly justifiable. Another advantage of the exploratory incision is, that the state of the acetabulum may also be ascertained. It must, he says, be borne in mind, that the natural fulness of the hip, with its thick muscular mass, no longer exists, the patient being little more than a skeleton, and that the *sounding*, if it may be so called, can be done with great ease, by little cutting, and at most it would cause but little bleeding. The difficulty of ascertaining the existence of dislocation may be unaccountable to those who had not investigated the subject with reference to that point. The cessation of the growth of the femur, the loss of a portion of its head, the shortening and loss of obliquity of the neck of the bone, the flatness of the nates, and the direction of the foot—for it may be inwards or outwards—may all be the means of misleading the best practical surgeons, and inducing them to believe that there was dislocation when there was no such thing. In justification of the operation—in other words, concerning the principle under which it may be performed, the author referred to the daily practice of surgery for like examples, not only in the removal of diseased bone, but even of entire joints. The conclusion at which he arrived was, that there were cases of hip-joint disease where the disease was limited to the head of the femur, the acetabulum healthy, or no longer implicated—that is, having recovered if it had been diseased—the head of the bone dislocated and lying in a sinus or abscess cavity, the patient sinking from exhausting suppuration, there being no internal disease, or other manifestation of external local injury than that in the hip, that the removal of the head of the femur would save life. Mr. Walton then gave the particulars of twelve cases that had been operated on, six of which had died, and six recovered. Two others were mentioned who had undergone operation, but the results of which he could not learn. He then went on to say, that the formation of a false joint, a wonder to those who have not looked into the subject, appears to be about the earliest reparative act, just perhaps the reverse of what the physiologist or pathologist would expect. As to the operation itself, he did not regard it as difficult. In several cases in which he had seen it done (he had been present on eight occasions), not a ligature was required, and the amount of blood lost was surprisingly small. Were it otherwise, that is, with regard to the loss of blood, that alone would be sufficient to render it inapplicable to the class of cases under consideration. The wasting and riddled state of the buttock greatly facilitates the process of operating. In several of the cases little more was required than to open a sinus, to raise the head of the femur, and saw it off. Removing the head of the femur could scarcely be classed among the mutilating operations, for what was taken away was not, strictly speaking, under the circumstances, missed; and no more deformity was produced by its loss than existed in those cases in which there was recovery after an advanced stage of hip disease with dislocation. The amount of bone that should be removed must, the author says, depend on circumstances; but, *cæteris paribus*, he would say that the removal of the head will suffice. Mr. Fergusson thought, that if the trochanters were removed as well, the limb would be more easily brought in a line with the pelvis, and the cure thereby facilitated. Except that extension or counter-extension were not needed, the same treatment was necessary as when there was compound fracture of the thigh.

### § III.—*Injuries and Diseases of the Abdomen.*

9. *Hernia—Reduction en masse.*—An excellent retrospect of the history of this method of reducing strangulated hernia, is contributed by DR. BLACKMAN\* in the form of a pamphlet, which has been obligingly forwarded to us. The account is full and accurate, and we believe includes nearly every case which has been placed on record.

10. *Inguinal Hernia, New Operation for the Radical Cure of.*—M. VALETTE has addressed a communication to the Académie des Sciences of Paris, in which he describes a new operation for the radical cure of inguinal hernia, which consists in blocking up the canal by a portion of integument, and causing it to adhere by cauterising the canal itself by chloride of zinc, and thus inducing inflammation and subsequent union.† [How much of novelty there is in this operation will appear by reference to our Third Volume, p. 107.]

11. *Subcutaneous Division of Strangulated Inguinal Hernia, where the seat of Stricture can be detected at the External Ring.*—Professor PANCOAST states, that in this form of hernia, where the surgeon is so well satisfied with the state of the contents of the sac, as to be willing, if it were possible, to restore them by the taxis, the subcutaneous division of the upper column of the external ring may be substituted for the common operation. He has three times performed the operation on the living subject, and with complete success. The method of performing the operation is as follows: A transverse fold of integument, an inch and a half high, is raised just below the external ring; the lower wall of this fold is to be punctured with a bistoury, and through this puncture, the end of a grooved director is to be passed and insinuated for near half an inch, immediately beneath the upper column of the ring. The fold is then to be smoothed out on the director. The end of the director is then to be strained upwards with the thumb and fore-finger of the left hand, till its outline can be seen below the skin. A sharp-pointed bistoury is then to be pushed through the skin by a new puncture into the groove of the director just below the external ring. By inclining the back of the bistoury towards the operator, the point will slide along the groove and cut the stricturing band. The contents of the sac may now be replaced, and the two unimportant punctures require no particular treatment.‡

12. *Occlusion of the Rectum—Amussat's Operation.*—Professor BUSH reports the case of a lady in whom he performed Amussat's operation for complete occlusion of the rectum occasioned by stricture of the sigmoid flexure. The relief was immediate. An artificial anus was established; but the patient died on the fourteenth day from the malignant disease which caused the obstruction.

### § IV.—*Injuries and Diseases of the Genito-Urinary System.*

13. Under this Section we are called upon to notice a very valuable work in a Second edition of Mr. ACRON'S "Practical Treatise on the Diseases of the Urinary and Generative Organs in both Sexes." The First edition attracted considerable attention at the time it appeared, and ample justice was done to the author in the various reviews to which it was subjected. The present edition far surpasses the first in value, being in fact so much extended that it may be regarded as a new production. The diseases to which the genito-urinary apparatus is obnoxious are divided by the author into two great classes—the non-specific and the specific. The first embracing blennorrhagia and its complications in both sexes; the latter, syphilis in its various forms. The whole is introduced by a chapter on Prostitution and the necessity for Special Hospitals

\* Reduction of Strangulated Hernia en Masse, by George C. Blackman, M. D. (Reprint.) New York, 1851.

† Gazette Médicale, Mai 17.

‡ Transactions of the American Medical Association, p. 374, vol. iii.

for Venereal Diseases, in which the author points out most forcibly the ill effects upon society of the absurd regulations which exclude venereal patients from a large number of our general hospitals.

Of so extensive a work as the present, it would be impossible to give a complete analysis; we shall therefore content ourselves with a cursory glance at its contents, dwelling only on such topics as are most valuable in practice.

In the first chapter on the nature and causes of "Blennorrhagia," which is the term the author, as we believe rightly, applies to muco-purulent discharges from the genital organs in both sexes, he strongly urges the necessity of being aware, firstly, that these discharges may arise from a variety of causes other than that of impure intercourse; and, secondly, that these discharges may, acting as chemical irritants, produce a similar discharge in other susceptible mucous membranes. This is an observation which should be generally known, as it is calculated to allay many otherwise fertile sources of unhappiness. He then passes on to the symptoms, pathology, diagnosis, and treatment of the disease.

In the second chapter we have a more detailed consideration of blennorrhagia, or, as he here calls it, in accordance with general custom, gonorrhoea, in the male. In this chapter he enters copiously into the treatment adopted by Ricord, which may be divided into the abortive and the curative. The author here particularly condemns the common notion that the sudden suppression of the discharge has a tendency to produce orchitis, strictures, and gonorrhoeal rheumatism. The abortive treatment consists in the injection of a solution of *argentum nitras* (10 gr.— $\frac{3}{4}$  j. of water). One of these generally suffices, if adopted within from twelve to twenty-four hours after the first symptoms; and the author states that he seldom has occasion to have recourse to a third. With this he combines the use of *copaiba* or *cubebs*, or both. A formula for the former which he recommends is:—

R Balsam. *Copaibæ*,  $\frac{3}{4}$  j;  
Magnes. *Calcinat.*,  $\frac{3}{4}$  ss;  
Ext. *Hyoscyami*,  $\frac{3}{4}$  ss;  
Camphoræ,  $\frac{3}{4}$  j;  
Theriaca,  $\frac{3}{4}$  iij;  
Micæ *Panis*,  $\frac{3}{4}$  iss, ft.

Electuarium—*dosis*, coch. j minimum ter in die. The curative treatment need not be noticed.

The author's treatment of gleet consists in the employment of a wax bougie, No. 6 or 8, to test the state of the urethra. If it exhibits an irritable unequal surface, he injects a strong solution of nitrate of silver, and gives *copaiba* and *cubebs* in paste. If there be a stricture, it must be cured in the ordinary way.

Strictures of the urethra form the next subject of comment. We shall, however, extract only the author's remarks on the treatment of impermeable stricture by perineal section—an operation which has of late caused so much discussion. This operation consists, as our readers are aware, in passing a grooved director through the stricture, (none are impermeable to Mr. Syme, the author of the method,) and then freely dividing the diseased structures. Of this operation the author observes, "I have witnessed this perineal section several times, performed in the most able manner, but the patients have all died. In itself the operation is very easy; but the subsequent results are not, at least in London, so favourable as Mr. Syme seems to think; still I believe we are not as yet in the possession of a sufficient number of facts to warrant us in rejecting an operation which has been so successful in the hands of Mr. Syme," &c. (p. 160.)

We pass over several other consequences of blennorrhagia in the male—such as orchitis, cystitis, inflammation of Cowper's glands, and spermatorrhoea; the latter, however, we shall notice briefly at a future page. At present we proceed to Chapter III., which treats of blennorrhagia in the female.

Blennorrhagia in the female is divided by the author into varieties, differing mainly in the situation of the inflammation. Thus we have blennorrhagia of the vulva, the analogue of balanitis in the male; blennorrhagia of the urethra, of the vagina, of the lining membrane of the uterus, and of the ovary. In dis-

discussing the various interesting questions connected with the consideration of these affections, the author exhibits the importance of the speculum, and in our opinion, most justly finds fault with the anti-speculum agitation which has lately taken place at some of the Medical Societies of the metropolis.

In Chapter IV. the author treats of blennorrhagic affections common to both sexes, such as ophthalmia and rheumatism; the former of these we shall notice in the Section on Ophthalmic Surgery.

Speaking of gonorrhoeal rheumatism, Mr. Acton states that, in the former edition, he expressed his doubts of the connection between the two diseases. He is now, however, convinced of the fact. In accordance with general experience, he finds gonorrhoeal rheumatism most difficult to manage; as may be seen in the large array of medicinal agents which he mentions. The best remedy is residence in a warm climate.

In this chapter we have an account of blennorrhagia of other parts of the body; the description of which, we are happy to say, is drawn from foreign practice.

Chapter V. contains the non-specific affections which arise from sexual intercourse; these are warts, herpes præputialis, and excoriations. In the treatment of the former, the author recommends the part to be sprinkled with equal parts of ærugo and savine in powder.

This concludes the first part of Mr. Acton's valuable work. The second part is occupied with the consideration of the specific disease, syphilis; and contains seven chapters on the following subjects respectively:—1. Primary symptoms, consisting of the varieties of chancre.—2. Bubo.—3. Secondary symptoms.—4. Tertiary symptoms.—5. Syphilitic cachexia.—6. Syphilophobia.—7. Infantile syphilis.

Our limits will not allow of our following the author rigidly, in his elaborate description of syphilis in its various aspects; but we shall endeavour to select certain salient points of more than common interest.

*Is there but one virus, or a plurality?*—It has been a question with surgeons, whether there is but one or several tissues of syphilitic virus. Mr. Acton decides that there is but one, and mentions the case of a female who had intercourse with three men, at short intervals, in the same evening. One of them got phagedenic sore; another, indurated chancre; the third escaped with a simple excoriation.

*Is mercury necessary in simple chancre?*—In reference to the exhibition of mercury in simple chancre, the author remarks, "Before speaking of the necessity of taking mercury, I wish to remind the reader, that a person who has undergone, or is undergoing, a course of mercury, is as liable to fresh contagion, as if he had not taken a grain of the mineral. The result of numerous cases, treated during the last ten years, and which still remain under my observation, induces me to think, that mercury is by no means necessary either in expediting the cure, or in preventing secondary symptoms. Without mercury, the local cure is rapid; and secondary symptoms do not occur except in such feeble proportions, that they should not enter into our calculations." (p. 395.)

*Treatment of Phagedenic Chancre.*—In the treatment of phagedenic sore, Mr. Acton relies on iron given internally, in moderate and increasing doses. This treatment was introduced by Ricord. The preparation given is the Potassio-tartrate. A solution of this salt is also applied to the sore. (p. 410.)

*Mercury indispensable in indurated chancre.*—The author considers mercury indispensable in the treatment of indurated chancre, but does not prescribe it for the first few days after the appearance of the hardening. The preparation he uses is the hydr. o. cretæ, in doses of five grains every night, and after a few days night and morning. (p. 435.)

*Secondary symptoms cannot occur twice.*—M. Ricord lays it down as a rule, that a person who has once had secondary symptoms, possesses in that very fact an immunity from a second attack; that as vaccine acts but once, so does constitutional syphilis. A patient may have relapses of secondary symptoms, depending upon the primary infection; but if he once gets well of constitutional syphilis, he will not have secondary symptoms, although he contract a fresh primary sore. (p. 476.)

*Treatment of Mucous Tubercles.*—The treatment of mucous tubercles consists, in addition to general measures, in the use of the following lotion:—

Liq. sodæ chlorinatæ, ℥ss.  
Aq.æ, ℥viij, fiat lotio.

After being well washed with this, they are sprinkled with calomel. (p. 515.)

The concluding chapter on Infantile Syphilis is of great importance. This, however, we shall notice in our Report on the Diseases of Children.

14, *Perineal Section in Stricture, &c.*—The subject of perineal section in the treatment of stricture has, for some time past, been occupying the medical profession and the columns of the various periodicals. The work before us, by Professor LIZARS,\* becomes invested with a greater share of interest from the prominent part taken by him in the recent controversy respecting the propriety of Mr. Syme's operation; that of making a long section through the perineum in cases of stricture of the urethra. In the preface to the work the Professor remarks:—

"Experience has now enabled me to draw the following conclusions from the cases hitherto operated upon, so far as their results have been ascertained.

"1st. That the division of a stricture by external excision does not completely remedy the disease in its inveterate and obstinate form.

"2dly. That division in cases of less obstinacy, is not preferable to dilatation, as affording relief more permanently or more safely. On the contrary, the total failure of the perineal section to accomplish a cure, has, in my opinion, been satisfactorily proved, and its general adoption is, therefore, utterly unjustifiable, and would be justly stigmatized as a great surgical blunder."

As our object in this Report is not so much to offer our own opinions upon the works submitted to us as to bring before our readers the author's views and ideas, we subjoin the following brief selections from the volume.

The work commences with a detail of the causes and nature, the varieties, symptoms, and situations, of stricture; the treatment of perineal stricture follows, and a history of the perineal section is given at page 17. The author "proceeds to show that the operation of the perineal section for the cure of organic stricture is not based on sound anatomical or pathological grounds. In his "Lectures on Anatomy," as well as in those on Surgery, he taught that the corpus spongiosum consisted of a congeries of arteries and veins; that the corpus spongiosum was so highly vascular that if the lithotomist wounded the bulb he must anticipate hæmorrhage, which, if neglected, would prove fatal: and that he must, therefore, secure the artery leading to the bulb, and stuff lint round the elastic gum tube. What anatomist has not found the corpus spongiosum fully injected, by inserting one pipe into one of the internal pudic arteries, so that the mesial line, cut into, will pour out as much blood as a wound in either lateral aspect?

In the next place, he asks, on what grounds it can be explained that an incision into the mesial line of an organized cartilaginous stricture of years' duration would prevent recontraction? Were the catheter continued to be inserted once a week, for life, and retained each time for an hour or so, there might be some chance of the diseased tissue being absorbed; but he doubts such proceedings would only keep the incision in the urethra distended. In the majority of "confirmed organic strictures" we find the prostatic portion contracted, and, in such case, is there no plexus of vessels as in those labouring under calculus? He presumes it must have been the frightful hæmorrhage following the operation in 1844, when the knife was run fairly through the whole extent of the thickened texture, from the bulb to the anus, that caused the operator, Mr. Syme, to change his operation in 1849. The surgeon now, in his amended

\* *Practical Observations on the Treatment of Stricture of the Urethra and Fistula in Perineo. Illustrated with Cases and Drawings of these Affections; with an Appendix containing various Letters, Papers, &c., by Professor Syme and Dr. Mullar, of Edinburgh, Mr. Gay, of the Royal Free Hospital, and Mr. Wade, of London, the Author, &c.* By John Lizars, late Professor of Surgery to the Royal College of Surgeons, and Senior Operating Surgeon to the Royal Infirmary of Edinburgh. 1851.

mode of operating, pushes the point of the knife into the groove of the director, behind, or on the bladder side of the stricture, runs the knife forward so as to divide the whole of the thickened textures.

"When the sound pathological views and dexterous operating abilities of the late Mr. Liston are duly weighed, and when the great surgeon boasted, shortly before his leaving Edinburgh, in the operating theatre of the Royal Infirmary, just as he had succeeded in inserting a silver catheter in a man, on whom he intended to divide a stricture consequent on a blow, that he had never yet failed in passing a catheter; it must strike every unprejudiced mind, that the treatment of stricture had been carefully investigated by him. In London, when he did divide the stricture in the perineum, it was *only* the stricture, not three or four inches of the urethra, as in the Perineal Section. It must appear evident that it has been from want of that manual dexterity which Mr. Liston so eminently possessed (for, as he justly observes, the operation of introducing a catheter through what has been called an impermeable stricture, is, without doubt, the most difficult in the whole range of surgical operations, and demands all the prudence, science, and skill of a master), that elastic gum catheters, lancetted stilettes, and, lastly, the appalling operation styled the perineal section, have been invented or had recourse to." (p. 19.)

With respect to the unparalleled success of the late Mr. Liston, here referred to, in the introduction of the catheter, we beg leave to observe, that apparently as his knowledge increased, his good luck deserted him, or that he left it behind him on his removal to the metropolis; for Mr. W. Cadge, Assistant Surgeon to University College Hospital, and the pupil and friend of the late Mr. Liston, has recorded in the "*Medical Times*," Nov. 9, 1850, that he has witnessed him repeatedly foiled in the introduction of the catheter in ordinary stricture.

"Every unprejudiced inquirer who peruses the history of the cases of perineal section, must come to the conclusion—after considering the period occupied in the performance of the perineal section, the great loss of blood during and after the operation, and the subsequent recurrence of the stricture—that the new mode proposed to supersede the old one, which consisted simply of dilatation by means of the silver catheter, is not only a painful, but an extremely hazardous, as well as unsuccessful, and therefore uncalled-for substitute. Neither the want of manual dexterity in passing an instrument through the stricture, nor the alleged notion that frequent attempts to do so have the effect of injuring and irritating the excitable state of the urinary passage, afford any just ground for resorting to so dangerous an experiment. The circumstance that an instrument was passed into the bladder in each case, before incising, incontestably proves, that no necessity whatever existed for enlarging the contraction by means of an external opening. In conclusion, I have only to add, that in every case where perineal section has been had recourse to, a cure by the silver catheter might have been effected in three or four weeks, with as reasonable a prospect of non-recurrence of the stricture. For I believe it will be found, that the recurrence of the stricture will take place, according to circumstances, as rapidly and certainly after the one mode as after the other, and that nothing but the persevering use of the silver catheter can be safely depended upon for affording relief." (p. 20.)

Another portion of the volume is dedicated to the subject of *Fistula in Perineo*—"which may be said to be the natural sequence of stricture of the urethra, if neglected, and is commonly preceded by urinary infiltration, occurring much more frequently in advanced than in early life. The treatment," says the author, "must be active. A direct outlet is to be made for the urine, by incising the perineum on the left side, as in the lateral operation of lithotomy, through the integuments, superficial and deep fascia, the surgeon guiding the bistoury with the left forefinger. The incision should be always on the left side of the raphe, to avoid injuring the support of the rectum. The infiltrated cellular tissue of the perineum, scrotum, and integuments of the abdomen, must be incised. The patient's strength is to be supported with wine, brandy, and animal jellies. If the patient recovers, the incision in the perineum will become, in the course of eight or ten days, a urinary fistula.



"When the urethra ruptures at the scrotum, and infiltrates its cellular tissue, more than one urinary fistula supervenes, and converts the scrotum into a condensed, swollen mass. When the urethra ulcerates anteriorly to the scrotum and forms a fistula, this is very troublesome to heal, and sometimes requires the urethra plastic operation.

"The treatment of fistula in perineo is the same, or ought to be the same, as that for permanent stricture, or impermeable stricture. We should begin with No. 7, silver catheter, and, failing to insert it, we ought to proceed to Nos. 3, 2, or 1; when a cure may be considered to be accomplished." (p. 26.)

The author details the result of eleven cases, occurring under his own notice; and has also published an appendix, containing the controversy between himself and Mr. Syme, and the cases which gave rise to it, as well as the opinions of different medical men then made public in the journals. The work is embellished with nine well-executed drawings, illustrating the condition of the urethra when strictured, the modes of inserting a catheter in its progressive stages, and the situations of fistula in perineo.

15. *Spermatorrhœa*.—A second edition of Mr. M'DOUGAL's translation of Lallemand has recently appeared; but we do not find that it differs materially from its predecessor. They are both more diffuse than need be, and might have been judiciously curtailed, by an omission of numerous cases, some of which are told with a minuteness scarcely suited to British taste.

—The same subject is treated in a more condensed, but equally useful manner, by Mr. ACRON.\*

—In a pamphlet by Dr. PICKFORD, a review of which appears in the "Medical Gazette," May 30, a praiseworthy attempt is made to do away with the undue importance which he conceives is given to the subject of spermatorrhœa and impotence. That the frequency of this complaint is exaggerated, to a great degree, by the host of advertising quacks, cannot be doubted, and the timely caution of Dr. Pickford may be of vast service, if his pamphlet should appear in an English dress.†

### § V. *Ophthalmic Diseases.*

58. *On the Epidemic Ophthalmia in Tipperary and Athlone*, by W. R. WILDE, Esq.‡—Among 340 cases inspected by Mr. Wilde, in the Tipperary Union, were to be found cases of ophthalmia, or its results, in all stages, from those recently affected either with simple conjunctivitis, muco-purulent ophthalmia, or the more violent and purulent form of the disease, to those presenting collapsed globes, or staphyloma either of the cornea end, or of the entire eye; but the vast majority laboured under chronic ophthalmia, with granular lids; and a great many presented ulcers of the cornea, some of which had just penetrated, thus allowing a small portion of the iris to protrude. The granulations upon the conjunctival surface of the upper lid were the largest Mr. Wilde ever witnessed, many of them exceeding in magnitude the size of a split pea, and some resembled the protuberance which forms upon the end of the divided muscle after the operation for strabismus; or were like the little fungous nail-headed excrescence which grows from the conjunctiva of the lid in cases of neglected tarsal tumour, attached by a peduncle, and capable of being removed with facility by means of curved scissors. In some cases, several of these existed along with the general villous or granular condition of the conjunctiva; they were principally congregated above the external canthus; and to such an extent had they grown in some instances, as to produce a manifest protrusion of the lid, like that seen in ordinary tarsal tumour. Without their removal, it could not be expected that any permanent improvement could take place.

Mr. Wilde believes the disease he witnessed in Tipperary to be a modified form of that denominated Egyptian ophthalmia. It is manifestly contagious, as much so as fever, dysentery, cholera, or any other established contagious or

\* Op. cit., p. 222.

† Ueber Wahre und Eingebildeter Samenverluste, &c. Heidelberg, pp. 79.

‡ London Monthly Journal, Jan. 1851.

infectious diseases arising from some peculiar state of the atmosphere, acting on those who happen at the time to be good recipients for its seeds; or it may be propagated by direct contact of the matter or discharge from one person to another, and in this mode it is supposed that the nurses and wardmaids of the Poor-law establishments contracted it. The cause of its spread in the Tipperary Union appears to Mr. Wilde to have depended upon the impaired state of the constitution of its inmates—their broken-down health and spirits, sudden alteration in diet, crowding together, particularly at night-time, in large masses, and the want of pure air and proper exercise.

With respect to the granular lid, Mr. Wilde remarks, that it is one of the most frequent sources of blindness in the lower orders, and one of the most untractable diseases to treat. Whether it arises from the humidity of the climate, or the dirty habits and impoverished condition of the poor, it is not easy to determine; but he thinks more instances are found of it in Ireland than in any other country in Europe. It is also one of the causes of entropion, a very common affection amongst the Irish.

Of the 340 cases, 16 persons—10 males and 6 females—had irrecoverably lost both eyes, and in two more they were on the point of being lost; 32 persons—23 males and nine females—had each lost one eye. In 33 cases—16 males and 17 females—one eye had been blemished (generally from dense leucoma or cicatrix of the cornea, with synechia anterior), so as to impair, but not altogether destroy vision; and in 6 cases—3 males and 3 females—both eyes were in a similar condition; 87 in all where one or both eyes had suffered to a greater or less extent.

The great bulk of the patients in the Ophthalmic Hospital having contracted the disease in the male and female schools of the Union, Mr. Wilde next inspected these establishments. Both the boys' and girls' schools are situated in the uncleanly, ill-sewered, and unhealthy town of Tipperary, which, in 1841, contained 7370 inhabitants: and the average proportionate mortality for ten years was, as far as the records of the last census afforded the means of approaching the truth, 1 in 30·8. These establishments had been private residences, the rooms and outhouses belonging to which, together with some additional buildings recently erected, were converted into schools; but, taken as a whole, they were, in a sanitary point of view, inapplicable to the purpose. There was a manifest deficiency of space for exercise-ground for the children. This is an error, not only in a moral but in an economical point of view; for the guardians may rest assured that if a single acre of green field, properly supplied with a gymnasium and other suitable means for taking active exercise were provided in the immediate vicinity of the town (at a cost, probably, of two or three pounds per acre), wherein the boys and girls of the workhouse-schools could play daily, the males at one time and the females at another, it would save them a large amount of expenditure in hospitals, medicine, and medical attendance. The food and clothing supplied to this establishment were both very good. The chief dormitories were long thatched apartments, each 60 feet by 15, and the wall 8 feet high; but the ridge-poles of the roof were 16 feet from the floor. As many as 80 boys have usually slept in each of these apartments; and, upon inquiry, the schoolmaster admitted that the ophthalmia almost invariably attacked the children during the night time, and chiefly those who slept in these very apartments. From the 15th of May to the 15th of August, 110 boys were seized with the epidemic in this school, and removed to the Ophthalmic Hospital.

In a letter addressed to the medical attendants of the Tipperary Workhouse, Mr. Wilde stated his views relative to the treatment which it was most advisable to adopt. Upon the first seizure, slight local depletion, regulated in degree according to age and condition of the patient. When there is much swelling of the lids, cold applications. A strong solution of nitrate of silver, 6 or 8 gr. to the oz., when the conjunctivæ of the lids become villous and pulpy, and pours out in great quantity a thin muco-purulent discharge, and when that covering the globe is raised up into a serous chemosis; the solution to be weakened as soon as the intense symptoms of inflammation subside.

As soon as the local depletion has been had recourse to, the bowels freed, the bath used, and the solution of nitrate of silver dropped into the eye, cinchona bark should be liberally administered, particularly during the sub-acute stage; combined with plenty of nutritious food, good wholesome bread and milk, as well as broth containing vegetables during the day, introducing a variety in the description of food administered. Where the patient is much broken down and the disease is in a chronic state, a tablespoonful of cod-liver oil may be given to each child two or three times a day.

With respect to the local treatment of the ulcers, several of which were transparent, as if a piece had been chipped out of the cornea, Mr. Wilde recommended them to be touched with a solution of nitrate of silver, of the strength of about 4 grs. to the oz., applied with a camel-hair brush. In cases which have proceeded so far that the ulcer has penetrated, the knuckle of the protruding iris should be washed with a very fine brush wet with a weak solution of nitrate of silver, and immediately afterwards drop into the eye a solution of atropine of the strength of two grs. to ʒi of distilled water. The eyelids should then be fastened down with narrow strips of adhesive plaster, and a piece of fine lint, plentifully smeared with moistened extract of belladonna, applied over the eye, and retained in this position by a light bandage. The eye should not be opened for the next four days; but as the lint becomes soiled and stiff with the discharge, it may be changed as often as necessary, and fresh belladonna applied round the orbit.

After adverting to certain hygienic rules to be adopted in the treatment of the chronic cases, Mr. Wilde makes the following classification:—

CLASS I. All the recent cases before they have passed into the chronic form. They should, if possible, be at the top of the house.

CLASS II. The totally and irrecoverably blind. These had better be separated from the rest of the patients.

CLASS III. All those with ulcers of the cornea, protrusions of the iris, or staphyloma, not producing blindness. In recent cases of staphyloma of the cornea projecting through the lids and causing much irritation, the protruding part should be tapped every now and then with a flat needle, and a light pad made to exercise some degree of pressure on the eye sometimes proves beneficial. In all cases of recent adhesion between the cornea and iris, the continued dilatation of the pupil by means of atropine or belladonna should be resorted to.

CLASS IV. With hard granulations, generally distinct and separate. These should be touched with sulphate of copper. The constitutional treatment by means of bark and cod-liver oil adopted, combined, where there is much intolerance of light, irritation of the membranes of the external nares, swelling of the upper lip, and other strumous manifestations, with very minute doses of the oxymercurate of mercury. Such cases will also be benefitted by the application of a blister to the vertex. In very young children the use of the syrup of the iodide of iron will be found beneficial.

CLASS V. With large distinct granulations, which principally congregate at the sulcus, formed by the reflexion of the conjunctiva from the upper lid to the globe. These cases should be seen daily, the lids everted, and as many of the granulations as possible cut off with a curved scissors. The main surface of the lid may occasionally be scarified slightly, and the bleeding encouraged with warm fomentations. As the granulations disappear, some local astringent should be employed, such as the sulphate of copper, solution of nitrate of silver, or the acetate of lead. The constitutional treatment in such cases is even more necessary than in the foregoing class.

CLASS VI are those in which the conjunctiva presents an uniform granular condition, the surface of the granulations, however, being tolerably smooth, although they may be separated by passing a probe between large packets of them. They will require an energetic constitutional treatment, with as much animal food as the dietary of the institution will permit. The local treatment is to unload the deeply congested purple granulations by very slight scarifications, and, in a day or so afterwards, to apply finely levigated acetate of lead.

For this purpose the lids should be everted, their internal surface gently dried, and the lead applied either with the top of the finger or a camel-hair pencil, so as to completely cover over the exposed surface. The lid should be still held firmly everted for at least a minute, during which time the lead will have dissolved, and the granulations will have changed colour very considerably, assuming the hue of an unripe mulberry. The parts should then be washed free of the application with a little clean water, either by means of a syringe or sponge. After one or two applications (repeated at intervals of three days) the lead will form a sort of enamel of a whitish colour, and of great smoothness over the surface of the lid, which should not be interfered with except in such spots as it has not taken effect upon.

CLASS VII are those with simple, uncomplicated chronic ophthalmia.\*

Mr. Wilde was much struck with the circumstance of there being so little development of scrofula amongst the children, only two or three instances of enlargement of the glands of the neck presenting in 350 patients. It also appeared to him remarkable, that only one or two instances of pannus or vascular cornea were to be seen; the former tending to show the epidemic nature, the latter the asthenic nature of the disease. The report made by Mr. Wilde relating to the ophthalmia in the Athlone Union, contained what he considered to be the most striking defects in each section of the auxiliary workhouse, the remarks which he had made upon the disease in the Tipperary Union, its apparent cause and treatment, being equally applicable in the present case. He pointed out the manifest deficiency in the warmth, ventilation, cleanliness, mode of washing, and the general accommodation of the several establishments through which he was conducted. His paper concludes with the account of a similar epidemic which prevailed in the 31st Regiment while stationed in the Athlone garrison.

17. *Pathology of the Human Eye*, by Mr. DALRYMPLE.—The seventh fasciculus of this splendid work, which has just appeared, is, in every respect, worthy of its predecessors. The subject is cataract, which is illustrated in four plates, as exquisitely coloured as it is possible to conceive. The letterpress is, as usual, full and practical.

18. *Blennorrhagic Ophthalmia*.—Mr. ACORN makes two varieties of this disease, one the *gonorrhæal* ophthalmia, which arises from direct contact of the urethral pus, the other which is metastatic. In his descriptions of both he has translated Ricord's Memoirs from the "*Gazette des Hôpitaux*." In the treatment of the former, Ricord lays the greatest stress on the employment of the solid nitrate of silver, which he passes over the affected surfaces so as to whiten them. After the application, he syringes the eye freely. He sometimes applies the caustic thrice in the day. His general treatment consists in the repeated application of leeches, blisters, and purgatives. In the latter, in addition to these means, he uses mercury.\*

### § VI.—*Surgical Statistics.*

19. *Mortality after Amputation of the Limbs*.—A most laborious and valuable statistical document on this subject has been published by Mr. JAMES, of Exeter, in the 17th volume of the "*Transactions of the Provincial Medical and Surgical Association*." There has always been great difficulty in ascertaining the true ratio of mortality after operations of all kinds, which may be traced generally to a want of proper detail in the report of cases; and the author has had to contend with this great drawback to his inquiries. He has fallen back, therefore, to some extent, to his own experience. In analysing the various operations which are the subject of his inquiries, he has divided them into the two important classes of operations for injury and operations for disease. Of the first, he has 68 primary amputations, and 28 secondary; to these he appends the tables afforded by Dr. Laurie, Professor Simpson, and others.

\* Op. cit.

With this data, he commences his inquiry into the causes of mortality.

The *nature of the injury* has immense influence on the result of amputation; but as these accidents occur, for the most part, in healthy persons, we have yet to inquire why the mortality should be so much higher than in operations for disease. It would appear that the main cause of death is *shock*; but even abstracting this, the mortality is still higher than in disease, and other causes are therefore to be looked for. One of these is the fact that amputation is often performed through injured parts, a necessity which is perhaps greater in the thigh than elsewhere, and may, in the author's opinion, in itself account for the heavy mortality of thigh amputations.

Another cause is, that although the immediate effects of shock may have passed off, a certain impression has been made upon the system, which renders it more amenable to secondary inflammations and suppurations. This impression, the author believes, is made on the blood, rendering it unfit for the due performance of the reparative processes. The changes which the blood undergoes as a result of injury, is much insisted upon by the author, who thinks that many of the phenomena usually attributed to the imbibition of a septic principle, or to the effects of vitiated air, may be thus explained.

Having thus stated the causes of mortality in primary, he next makes the same inquiry in reference to secondary amputations. The first question he determines is the period of time which justifies the denomination *secondary* amputations. This is, in his opinion, the period marked by the first occurrence of suppuration; those which are performed between this time, and subsequent to the establishment of active inflammation, he calls *intermediate*. The great discrepancy of opinion regarding the mortality of secondary operations, is caused, he thinks, by the intermediate being frequently included in the records.

As far as his own tables go, secondary amputations offer a less mortality than primary. One predominant cause of the mortality of secondary operations is stated to be the long sojourn of the patient in tainted air, especially in military hospitals.

In summing up his evidence on this subject, the author arrives at the following conclusions:—

Amputations for injuries are far more fatal than for diseases, notwithstanding the subjects are commonly in the prime of life and health. The causes are, he believes, to be sought chiefly in the nature of the injury, which appears to have a material influence even when the injured part is removed.

The description of injury which is most fatal, is that which is attended with the greatest degree of crush, especially in the lower extremities.

The effects produced by such injuries on the system called shock, as is known, often produce immediate or speedy death, but the *impression on the system does not pass away even if the injured part be removed*; and the result is often a series of morbid processes, constituting destructive inflammation of the stump and in other parts of the body.

If the powers of the constitution are sufficient to overcome these morbid processes, either the patient recovers or is restored to a condition in which amputation may be performed with success. If performed before this period (*intermediate*) it is more frequently fatal.

The remarkable change wrought in the system by injuries, is the probable cause of the great mortality of amputation after them, as compared with those for disease. Other circumstances, as age, sex, state of the atmosphere, &c., co-operate.

20. *Statistics of Ununited Fracture*.—Mr. CROMPTON has collected and published the recorded cases of ununited fracture, with a view to ascertain the bones and the particular situation in each bone in which this unfortunate termination has been observed, and gives the following abstracts from Mr. Norris's paper on "Ununited Fractures."\*

\* Medical Gazette, Nov. 15.

## Of 150 cases of ununited fractures—

|    |                        |
|----|------------------------|
| 48 | occurred in the femur. |
| 33 | “ leg.                 |
| 48 | “ humerus.             |
| 19 | “ forearm.             |
| 2  | “ jaw.                 |

## Of 112 cases, in which the age is noted, there were—

|                         |    |
|-------------------------|----|
| Between 10 years and 20 | 14 |
| “ 20 “ 30               | 53 |
| “ 30 “ 40               | 21 |
| Above 40                | 24 |

M. Malgaigne has with care made out a list of 104 cases, with the precise date of the fracture as to the age of the patient suffering from the accident, with a view to the theory of the greater difficulty of union in old people. He finds—

|    |                |
|----|----------------|
| 1  | under 5 years. |
| 2  | from 5 to 10   |
| 3  | “ 10 to 15     |
| 4  | “ 15 to 20     |
| 50 | “ 20 to 30     |
| 19 | “ 30 to 40     |
| 14 | “ 40 to 50     |
| 6  | “ 50 to 60     |
| 3  | “ 60 to 70     |
| 2  | above 70       |

Mr. Norris's summary of treatment is as follows:—Of 46 cases treated by seton, 36 were cured; 3 partially so; 5 received no benefit; 2 died.

Of 38, in which resection, scraping, &c., were used, 24 were cured; 1 partially so; 7 received no benefit; 6 died.

Of 36, in which pressure and rest were used, 29 were cured; 1 partially so; 6 received no benefit.

Of 8, in which caustic was used, 6 were cured; 2 received no benefit.

Of 11, in which frictions were used, 11 were cured; but in 36 cases cured by seton, friction had failed in 8; and in 24 cases cured by resection, friction had failed in 5.

Of 11 cases in which other means were used, 5 were cured by iodine; injection, 1; erysipelas (!) cured, 1; and hot iron, 1.

Amputation (!), 5 cases. One was cured; 2 died; 1 failed; 1 not stated.

The table of results from the five methods of treatment most commonly used—namely, 1, compression and rest; 2, friction; 3, seton; 4, application of caustic to the seat of fracture; 5, resection of the ends of the bones—

Shows, that out of 36 cases included in his table treated by compression and rest, 29 were cured. Of these—

|    |   |
|----|---|
| 13 | were in the femur, of which 9 were cured. |
| 7  | “ leg, “ 7 “                              |
| 12 | “ humerus, “ 9 “                          |
| 5  | “ forearm, “ 4 “                          |

## From the seton and its modifications, in 46 cases—

|    |   |
|----|---|
| 13 | were in the femur, of which 9 were cured. |
| 10 | “ leg, “ 10 “                             |
| 16 | “ humerus, “ 10 “                         |
| 6  | “ forearm, “ 6 “                          |
| 1  | “ jaw, “ 1 “                              |

Accidents following the use of the seton in the 46 cases occurred 12 times—namely, arterial hemorrhage twice; fever, erysipelas, or profuse suppuration, 10 times.

From the use of resection in 38 cases, 24 were cured; 1 amended; 7 failed; and 6 died. Of these—

12 were in the femur, of which 7 were cured. Rather more than half!

|    |   |          |   |   |   |                  |
|----|---|----------|---|---|---|------------------|
| 6  | " | leg,     | " | 5 | " |                  |
| 12 | " | humerus, | " | 6 | " |                  |
| 7  | " | forearm, | " | 5 | " | and one amended. |
| 1  | " | jaw,     | " | 1 | " |                  |

In 17 of the cases in which resection was employed, other methods had failed; the seton was used six times.

In the 38 cases in which resection was used, accidents *not* ending in death, but dependent upon the operation, followed 9 times—namely, erysipelas, 6; profuse suppuration and abscesses, 2; phlegmasia dolens, 1.

Mr. Norris concludes that—

1. Non-union after fracture is most common in the thigh and arm.
2. That the mortality after operations for cure follows the same laws as after amputations, and other great operations upon the extremities—viz., that the danger increases with the size of the limb operated upon, and the nearness of the operation to the trunk; the mortality in them being greater in the thigh and humerus than in the leg or forearm.
3. That the failures after operations for their relief are most frequent in the humerus.
4. That after operations for the cure of ununited fracture, failures are *not* more frequent in middle-aged and elderly people than in young subjects.
5. That the seton and its modifications are more safe, more speedy, and more successful, than resection or caustic.
6. That incising the soft parts previous to passing the seton, augments the danger of the method, though failures are fewer after it.
7. That the cure by seton is *not* more certain by allowing it to remain for a very long period, whilst it exposes to accident.
8. That it is least successful on the femur and humerus.

### III.

## REPORT ON THE PROGRESS OF MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

BY THE EDITOR.

WHOEVER, as it has been our province to do, has watched the progress of medical science during the last few years, cannot fail to have noticed that greater advance has been made in our knowledge of the diseases and natural functions of the female reproductive system than in the other two arbitrary divisions of professional knowledge. Whether this be due to the fact, that obstetric medicine has recently claimed for itself a higher degree of consideration than was formerly accorded to it, when looked upon only as a fit calling for old women of both sexes; or whether the impulse has been given to its study by the accidental circumstance of a few master minds having been directed towards it, just at this period, we will not decide; but certain it is, that our retrospective labours in this department are always more onerous as they are more instructive than in that either of medicine or surgery.

### BIBLIOGRAPHY.

The only two works connected with the obstetrical department which have reached us, are one by Mr. ROBERTSON, and a second by Dr. COPEMAN.

The first, entitled "Essays and Notes on the Physiology and Diseases of Women, and on Practical Midwifery," is the production of a gentleman much known for the laborious exertions he has bestowed on the investigation of the conditions of the menstrual functions under variations of climate. The results of his inquiries are here given, and tend to abolish many hitherto unquestioned opinions on the subject. The amount of information accumulated from all parts of the world is extraordinary, and proves the untiring zeal by which the author must have been actuated.

The second part of the work is occupied with the consideration of certain questions in practical midwifery, such as the use of the forceps, the cause of prolapse of the funis during labour, how to deliver the head when separated, &c. These and others we shall briefly notice as we proceed with our Report.

The publication by Dr. Copeman\* consists of a digest of the Experience in Midwifery of the late Mr. Crosse, of Norwich, which he has edited, and enriched with some valuable original observations. Many of the cases are very briefly reported, and therefore comparatively useless; but others are invested with considerable practical interest. The cases are distributed under the following divisions:—Abortion, complicated labours, instrumental deliveries, placental presentation, concomitant diseases, puerperal maladies. There is also a chapter on the diseases of infants.

#### § I.—*Anæsthesia in Midwifery.*

1. Anæsthesia in midwifery is now a "*fait accompli*." Numerous as were at first the objections to its use, they are now "few and far between;" while the frequent experience of its beneficial action throughout this and other countries,

\* Cases in Midwifery, by the late John Green Crosse, M. D., F. R. S.; with Introduction and Notes by Edward Copeman, M. D.



has satisfactorily determined that, properly administered, and in proper cases, there is danger neither to mother nor child, but, on the contrary, much advantage to the former. The only communication on this subject which we have to notice, is one by M. ARAN,\* in which he recapitulates the evidence in favour of chloroform as an anæsthetic generally.

In reference to the use of anæsthetic agents in obstetrics, M. Aran commences by expressing his regret that his own countrymen have done so little to advance our acquaintance with their properties. He says:—"It is true that M. Paul Dubois was not slow in repeating the experiments of Dr. Simpson, and in acquiescing in the views of the learned Edinburgh professor; but here, as far as our country is concerned, the scientific history of anæsthetic agents ends; while in England numerous publications testify the interest with which the use of anæsthesia in obstetrics is regarded. Doubtless our countrymen have been scared by the cases of death which have from time to time followed the use of chloroform in surgery; but they should be made aware that, although it has been used in labour in innumerable cases, not a single instance has occurred to induce apprehension as to the effects of that agent upon the lying-in woman. Whether this immunity from danger depends, as is thought by Dr. Beatty, upon the circumstance of the horizontal position being maintained during inhalation, or upon the state of emptiness of the stomach, or upon the fact that the anæsthetic effects are not needed to be carried to so great an extent in midwifery as in surgical operations, certain it is that the fact of comparative innocuity of anæsthesia in obstetrics has been ascertained in England, and should have due weight with us."

In order to form a correct estimate of the state of the question, the author thinks it necessary to recapitulate the conclusions of Dr. Simpson's first and second memoirs, in which it is stated that consciousness may be abolished without diminishing the force or frequency of the uterine contractions. This done, he proceeds to inquire into the results of later experience: and, firstly, he demands—

*What is the action of anæsthetic agents on the uterus and abdominal muscles?* "Contractions" and "pains" have been used synonymously in obstetrical language, giving rise to a confusion which has in itself had no slight effect in deterring practitioners from using anæsthetic agents. They feared that to annul pain was to destroy uterine contraction. Etherization, however, has established the physiological independence of uterine action and physical suffering, and has proved, satisfactorily, that it is possible for all consciousness to be abolished, and the uterine action thus to be artificially made to enter into the class of the organic functions of life, of which the sensorium takes no cognizance.

As regards the exact condition of the uterine contractions during the anæsthetic state, very contradictory opinions have been recorded. Simpson and Dubois affirm that the contractions are normal; and the same opinion is maintained by Dr. Murphy, who informs us that chloroform does not diminish the action either of the uterus or the abdominal muscles, unless it be carried to an unnecessary extent. The same evidence, in substance, is also afforded by Dr. Protheroe Smith, Mr. Snow, and Mr. Denham. There can, therefore, be no doubt that the contractions are modified by inhalation, and that they may be weakened or altogether suspended; but it is equally certain that these effects will not occur in ordinary cases, unless either the inhalation has been carried to an unnecessary depth, or the individual is peculiarly susceptible.

*Does the perineum become relaxed during anæsthesia?* This question also has been differently answered by accoucheurs. It is affirmative in the case of MM. Dubois, Protheroe Smith, Merriman, and Beaumont; it is, on the other hand, denied by Mr. Denham.

*En résumé*, it may be said, in reference to the action of anæsthetic agents on the contractility of the uterus and abdominal muscles, that it is possible to obtain a complete anæsthetic effect without paralyzing the uterus; that the intervals between the pains may be lengthened, and the contractions momentarily suppressed, without any real failure of the contractile power of the organ; and that, when the inhalation in such cases is suspended, the contractions

\* Archives Générales, Mars 1851.

return with augmented force, and this even before the woman has entirely regained her consciousness.

The next question M. Aran seeks to solve, is the effect of anæsthetic agents upon the health of the mother and infant. On these points he observes:—

“As regards the influence of anæsthetic agents on the mother and infant, the early results obtained by MM. Simpson and Dubois are quite confirmed. Etherization of the mother has no perceptible effect on the child, or only produces slight acceleration of pulse. Dr. Simpson has given the results of 150 labours in which chloroform was used. Out of these one child only was born dead, and that was putrid; and a second, the subject of cyanosis, died a few days after birth. Dr. Murphy also states, that in 540 labours in which anæsthesia was induced, there was not one still birth.”

In reference to the influence of anæsthesia on the mother, there is no ground for apprehension. Of 1519 females thus treated by Dr. Simpson, no accident happened which could rationally be attributed to the anæsthetic agents. Dr. Murphy did not meet with a single instance of death in 540 natural labours under chloroform; not one in 37 forceps cases; only one in 27 cases of turning; and 2 only in 20 cases of perforation. Drs. Duncan and Norris have contrasted the results of 93 labours under chloroform with 50 conducted in the ordinary manner. These results are entirely in favour of anæsthesia. They state that the females delivered under chloroform are exempt from the lassitude of ordinary labours; they are cheerful when the effect has passed off, and they frequently fall into a natural sleep. “Not only,” says Dr. Simpson, “do these women escape pain, but the knowledge of the fact has a favourable influence on the convalescence, which is shorter, and more free from complications than in the generality of cases.” It does not appear, moreover, that there is a greater frequency of other accidents which may endanger the life of the woman. Three of these have been chiefly feared—namely, rupture of the perineum, uterine hæmorrhages, and convulsions, but experience has proved the futility of such apprehensions. It appears, therefore, on the whole, that the maternal economy, so far from being injured by the use of anæsthetics, is, on the contrary, benefited by them, both in the act of accouchement and in its consequences.”

M. Aran next arrives at a question of paramount importance. *What are the indications and counter-indications for the employment of anæsthesia in midwifery?* Is the comparative harmlessness of anæsthetic agents a sufficient reason for their use in midwifery? To this he replies: “Dr. Simpson, and with him many of the physicians of the north, decide in the affirmative, considering that the pains which occur in the last stage of labour should be regarded in the same light as those which attend severe operations; so regarding them, it is impossible to refuse to the suffering woman the solace which is accorded to the subject of the surgeon’s knife. Of the religious objections we need hardly speak; they are less urged here than in England. But there are other objections, based upon physiological doctrines, which have considerable weight with many practitioners; among these M. Bouisson considers the pains of the lying-in woman as destined to insure her safety, since they inform the attendant of the stage and actual progress of the labour. But the same may be said of pain in surgical operations, and on this ground we ought equally to object to anæsthesia in surgery. In expressing our own opinions, we should say that in a natural labour, with pains of average intensity, anæsthetic agents may, with good reason, be dispensed with. But the case is different in preternatural labour, in which manipulations are necessary, which are in themselves the occasion of additional suffering. Whenever, for some reason, the pains are unusually severe, as from a faulty presentation, rigidity of the soft parts, narrowness of the brim, &c., all hesitation should vanish, and we should avail ourselves of anæsthetic agents, as powerful auxiliaries to the ordinary measures.

“In obstetrical operations there is evidently as much reason to defend the patient from the effects of nervous shock as in surgery; wherefore the employment of anæsthesia in such cases has not been discountenanced, even by those who are opposed to it in ordinary labours. Dr. Montgomery has recognised the utility of the practice in instrumental delivery, in turning, and in artificial extractions of the placenta. Certain accoucheurs have expressed doubts as to

the propriety of inducing anæsthesia in forceps cases, and in cases requiring perforation, from the fact that some degree of sensibility is required, as a warning against injuring the soft parts. But this objection is more apparent than real. When the rules for the application of the forceps are strictly observed, an anæsthesia does not increase the risk. It may be mentioned that in the case of obstetrical operations a greater degree of insensibility is required than in ordinary labour."

M. Aran here recapitulates the different methods for exhibiting chloroform which have been recommended in obstetrical practice, pointing out principally the rules laid down by Dr. Simpson and Mr. Snow; and concludes his valuable essay by extending his inquiries to the *medical* employment of these agents.

2. *The Speculum Vaginæ*.—In our last volume we gave a full account of the remarkable anti-speculum agitations which occurred at the meetings of the Medical and Chirurgical Society, the chief objections raised being those which had reference to the immodesty of the operations with the instrument; but it was also asserted that the prevalence of those affections for which it was used were greatly exaggerated. The unsoundness of the arguments brought forward by the objectors was then so clearly pointed out by Dr. Henry Bennett and others, that we shall not allude to the subject further than to state, that the same gentleman has urged the extension of the use of the instrument to certain cases in practical midwifery—as dividing an imperforate os uteri, inducing abortion, plugging in hæmorrhage, &c., as well as removing polypi and other uterine tumours.\*

## § II.—Diseases of Women unconnected with Pregnancy.

3. *Menstruation, Influence of Climate on*.—In Mr. Robertson's work above alluded to, this interesting question is treated with a minuteness of detail which has never been previously attempted, and many errors connected with the subject are most satisfactorily exploded, particularly that which has so long prevailed—viz., that the periods at which the catamenia first appear and cease are regulated by the temperature of the climate. We shall not go through the lengthened account of the evidence upon which the author has overthrown the recognised opinions on this point; suffice it to say that he has most industriously accumulated information from every part of the globe. His inferences are:

"1. The opinions of Haller, and all the physiologists since his time, that female puberty in the warm regions of Asia occurs from the eighth to the tenth year, is not only erroneous, but wide of the truth.

"2. The age for the earliest commencement of menstruation, either in India or England, may be taken at *nine* years. The suspicious cases at *eight* in the Calcutta column, might, however, be paralleled in this country—an instance of the kind having come under my own notice.

"3. That hence, although the *average* age of puberty in India is earlier than it is in this country, we may doubt if puberty does actually appear at an earlier period of life in the one country than in the other.

"4. For, bearing in mind that a proportion of the cases of menstruation under the age of *eleven* in Calcutta, amounting to 10·04, is to be received with suspicion, perhaps quite as large a proportion menstruate under the age of *eleven* in England as in India. Thus, if we take the tables for Bengal and the Deccan together, the per centage under eleven is 4; for the latter by itself, i.e., Bangalore, Toomkoor, and Bombay, it is 1·39 only; while, in England, the per centage is 3·15.

"5. The remarkable difference between the establishment of puberty in Europe and India, consists in the far greater proportion of Hindoos who arrive at puberty at the ages of twelve, thirteen, and fourteen.

"To put this fact in a clear light I have to remark that, in England and the

\* Lancet, April 5.

other European countries where the period of puberty has been ascertained and tabled, it has not been found that so large a proportion of instances cluster at any particular year of age. On the contrary, the occurrence of the sign of puberty is distributed more equally over a number of years—the twelfth, thirteenth, fourteenth, fifteenth, sixteenth, seventeenth; thus preserving, if one may say so, the graceful variety of nature.

“6. Although it is manifest from the tables that Hindoo women reach the age of puberty nearly two years earlier, on the average, than happens in Europe, it does not follow that climate is the cause. Demerara and the West Indian Islands have a higher mean annual temperature than Calcutta and the Deccan; and yet we know that the negress in these colonies is not earlier than the peasant women of England.”\*

4. *Menstruation, Diarrhoea in connection with.*—At a meeting of the Medical Society of London, Dr. Tilt read a paper in which he considered diarrhoea as an hitherto unnoticed symptom of menstruation, and inquired into the use of purgatives at the catamenial epoch. His reason for believing what he was about to advance was new, was, that he could find no mention of the association of diarrhoea and menstruation in previous writers. He had not seen a pamphlet by Dr. Butler Lane, noticed by us (Vol. VIII. p. 244) in which the same views, in effect, are clearly mentioned.

In investigating the connection of diarrhoea and the menstrual flux, Dr. Tilt inquires:—

1. At the prodroma of menstruation.
2. During its regular establishment.
3. At its cessation.

1st. As a symptom of the prodroma of menstruation, diarrhoea scarcely ever occurs. Dr. Tilt noticed it but once in 161 cases.

2dly. As a symptom of regularly established menstruation it occurred in 88 instances out of 161 women carefully interrogated relative to this point. It did not occur in 73 instances. In those cases in which it was present, it preceded the menstrual flow in 45 cases, accompanied it in 31, both preceded and accompanied it in 10, and in two instances it neither preceded nor accompanied it, but, on the contrary, habitually for two days followed the menstrual flow. In the cases of precursory diarrhoea, the bowels were in general constipated until the cessation of the catamenia.

3dly. As a symptom of menstruation at its cessation, diarrhoea was much less frequent than is generally believed, for it was only found in 8 per cent. of such cases.

With respect to the nature of the diarrhoea, it is generally unattended by pain, but sometimes nausea and slight colics precede it for two or three days. In one patient, these symptoms habitually lasted eight days previous to the appearance of diarrhoea. When it occurs at the change of life, it generally appears at irregular intervals; it may, however, adopt the regularity of the menstrual function. As a general rule, however, when diarrhoea has habitually accompanied menstruation, there is at the change of life a gradual diminution of both discharges, the cessation of one marking the termination of the other. Thus Dr. Tilt affirmed, that as a prodromic symptom diarrhoea scarcely ever occurs, that it is found in 8 per cent. of cessation cases, and that it is a very frequent precursory symptom of fully established menstruation. He therefore drew the physiological conclusion, that for the performance of menstruation the ovaries not only determine the menstrual secretion from the womb, but often call into consentaneous action most of the organs which, being subsidiary to nutrition, are animated by the same ganglionic nervous system, and particularly the intestines, with which they are placed in such close juxtaposition. He then proceeded to the rules which he considered to be those which ought to be adopted in the administration of purgatives:—

1. During the prodroma.
2. During the regular establishment; and
3. At the cessation of menstruation.

1st. *Use of Purgatives during the Prodroma.*—As Dr. Tilt had previously shown that diarrhoea scarcely ever precedes the appearance of this function, he concluded that nature does not dictate purgatives to be given at this period, while experience has proved the painful consequences often entailed by their being administered as emmenagogues.

2dly. *Use of Purgatives during fully established Menstruation.*—As in more than 50 per cent. nature prefaced the menstrual crisis by a premonitory diarrhoea, so experience teaches that purgatives may be advantageously given, when defective menstruation does not depend on any serious organic or uterine lesion; but the great point, says Dr. Tilt, in the administration of purgatives is, so to give them that the menstrual type be not interfered with; for, although this may be done with impunity in a very small class of women, it cannot be with the majority. Brisk purgatives, given a few days before those symptoms which generally precede each menstrual epoch, often anticipate it by several days, and thus vex nature in one of her most constant laws, and in many cases permanently disordered menstruation may be ascribed to the function having been treated as a child plays with a watch—setting the hands backwards and forwards. An inquiry, therefore, into how many days before the menstrual the premonitory diarrhoea used to appear, or if the patient has not that symptom, the date of appearance of other menstrual symptoms will be a sure guide as to the fit time for giving purgatives. Dr. Tilt next indicated the value of purgatives in amenorrhoea and chlorosis; and stated that a doctor, cited by Morgagni, never gave anything else in these cases but small doses of aloes. Dr. Hamilton, of Edinburgh, also depended exclusively on purgatives for the cure of chlorosis; but Dr. Tilt is of opinion, that it is better not to confide in purgatives alone, but to let them form the initial part of the treatment, as in nature diarrhoea often forms the initial part of menstruation. His plan is to begin by making a decided shock on the system of nutrition by an emetocathartic, and then give steel and bitters; but, if the appetite does not improve, and the bowels remain sluggish, he puts aside the steel and bitters, and seeks to break in on a perverse concentration of forces by giving another emetocathartic. If this plan were followed, he adds, the treatment of chlorosis would not require so long a period as it frequently does.\*

##### 5. *Menstruation, Management of Females during and after the cessation of.*—

This is the title of a series of papers by the same author, published in the "Provincial Medical and Surgical Journal,"† and embracing the medical and moral treatment of women at the onset, during the persistence, and at the cessation of the menstrual flux. The author's remarks are deficient in originality, but those on the phenomena which attend the critical period will bear extraction.

The symptoms of this period are referred by the author to affections of the cerebral, spinal, and the ganglionic nervous systems. The cerebral symptoms are stated to be—

|  |              |
|--|--------------|
| Headache, hysteria, and pseudo-narcotism, which were observed in . . . . .         | 64 per cent. |
| They did not exist in . . . . .  | 36 "         |
|  | <hr/>        |
|  | 100          |
| The spinal symptoms existed in . . . . .   | 70 per cent. |
| " absent in . . . . .  | 30 "         |
| Hypogastric pains existed in . . . . .   | 51 "         |
| There were none in . . . . .   | 49 "         |
| The ganglionic symptoms, as faintness and epigastric sinking, existed in . . . . . | 26 per cent. |
| Heats and flushes . . . . .  | 38 "         |
| Perspirations . . . . .  | 30 "         |
| Sweating . . . . .   | 16 "         |

\* Reported in "Lancet" and "Medical Times," March 1851.

† April 16; May 28.

These symptoms the author notices as intended by nature to relieve the system of the fluids which are no longer periodically discharged. In a certain number of cases, he has remarked that the sweating goes beyond what is salutary, and contributes to the exhaustion of the patient.

Amongst other diseases which attend this period, those which have reference to the womb itself require to be noticed. Thus—

|   |              |
|---|--------------|
| Leucorrhœa existed in . . . . .                           | 58 per cent. |
| Inflammatory affections of the womb occurred in . . . . . | 4 “          |

The author also observed—

|                                    |              |
|------------------------------------|--------------|
| Hæmorrhoids in . . . . .           | 20 per cent. |
| Intestinal hæmorrhage in . . . . . | 2 “          |
| Diarrhœa in . . . . .              | 12 “         |

Other affections are also occasionally observed, which the author puts down to some constitutional peculiarity. The author concludes with directions for the treatment of this interesting era in female life, but we do not find any suggestions of particular value. In reference to local treatment, which we have found so frequently necessary, he is almost silent.

6. *Dysmenorrhœa*.—In the same journal,\* Dr. SAMUEL EDWARDS has recorded cases illustrative of the several lesions which he considers to be the usual causes of dysmenorrhœa. These are four in number, and are stated to be—

1. A naturally contracted os or cervix.
2. The same condition arising from previous inflammatory action.
3. An inflammatory congestion of the urinary membrane of the womb.
4. Obstruction from tumours.

The treatment which the author adopts for the alleviation of these several states of the uterine organs, is judicious, and the cases are well selected.

7. *Sterility*.—M. MISTLER has contributed an essay,† on the various causes of sterility in the female, and their treatment. His views may be represented in a very few words. He regards a narrow cervix as the most frequent cause, and dilatation by sponge tents is his mode of treatment.

8. *Inflammatory Affections of the Os and Cervix Uteri*.—In consequence of the recent discussions on the use of the speculum, and the lesions which are supposed to call for its application, Dr. HENRY BENNETT has brought before the Medical Society of London a paper in which he vindicates the favourers of that instrument from the aspersions which have been thrown upon them, reiterating the symptoms by which the lesions requiring instrumental scrutiny may be recognised. Speaking of a large number of cases which had presented ulceration, he says—“The local symptoms were, pains in the lumbro-sacral, ovarian, hypogastric, and inguinal regions, as also pains down the thighs and legs; sensations of weight and bearing-down, accompanied by more or less difficulty in standing and moving; derangement in the menstrual function, assuming the form of dysmenorrhœa, menorrhagia, amenorrhœa, vaginal discharges, constipation, or diarrhœa; irritability of the bladder, &c. The general symptoms were principally dyspeptic, neuralgic, and hysterical conditions; entailing, secondarily, defective general nutrition, and consequent debility and anæmia. When all or nearly all of the local symptoms enumerated existed, the examination of the uterine organs was at once indicated and sanctioned, as it was all but certain, not only that disease existed, but that it was of long standing, and had produced structural changes which could only be remedied by local surgical treatment. If one local system was present, but in a marked and constant manner, with or without general symptoms, the existence of disease was very probable; but no examination was warranted until ample local means, such as injections and proper general treatment, had been tried. Lastly, the mere

\* April 30.

† Revue Medico-Chirurgicale.

existence of disordered general health, of depraved functional activity, of dyspepsia, hysteria, anæmia, &c., in the absence of uterine symptoms, was no proof whatever of the presence of uterine disease, although the lengthened duration of these conditions, and their proving intractable to the usual treatment, ought to lead us to minutely scrutinise verbally the state of the uterine functions. By thus minutely weighing the symptoms, general and local, and by submitting doubtful obscure cases to the test of general and non-surgical local treatment, a conscientious and scrupulous practitioner need seldom, if ever, make an unnecessary physical examination. Even when such an examination was deemed advisable, the use of the speculum ought never to be thought of until a careful digital investigation had confirmed its necessity. The morbid conditions of the body of the uterus, as to size and position, could only be recognised by the finger, the speculum giving no information, and the finger of the practitioner, with whom it had been educated by the eye, was also the safest guide as to necessity for further examination. If the os was found open, so as to admit one or two fingers, or even the tip of one finger; if the cervix was enlarged and indurated; or if its cervix was velvety and soft, the use of the speculum was indicated. The open state of the os was a very valuable symptom, as it was nearly always the evidence of ulceration occupying the surface, or of inflammation penetrating the cavity of the os uteri. If a speculum examination was then decided on, the cervix ought to be brought fully into view, so as to reveal even its vaginal attachments, and in a sufficiently good natural light to show even a speck of dust on any part of its surface. If, moreover, the lips were morbidly open, they should be separated by a bivalve speculum, with the assistance of the uterine sound, so as to allow the eye to penetrate into the os as far as possible. The lesions thus brought to light were the lesions which characterise mucous membrane similarly diseased in all parts of the human economy—those produced by inflammation and ulceration.

Referring to the cavil which had been made to the term "ulceration," as used by him and other pathologists, Dr. Bennett stated that he gave the name of ulceration to all solutions of continuity, the result of morbid action, and characterised by the existence of pus or sanies erectile granulations, such as are formed on all sores and wounds healing by second intention, and that whether the granulations were so microscopic as to constitute a mere abrasion or superficial ulceration, or so large as to constitute a luxuriant fungous sore. Such conditions responded to and tallied with the definitions of ulceration given by all classical writers. Some of his opponents, he continued, had denied that the lesions found in this region were ulcerative, and had endeavoured to make the profession believe that they were merely forms of "granular inflammation." They had never, however, explained what they meant by granular inflammation, or given a definition of it. If it was their intention to repudiate the established nomenclature of surgery, and to give to what had hitherto been called ulceration the name of granular inflammation, he for one would not object to the change, provided it could be established that such a change was desirable and necessary. But in the meantime, he repudiated the term as thus applied. Dr. Bennett alluded to a communication recently read before the Society; it had been stated that there was no proof before the profession that ulceration ever existed in the virgin, and expressed his surprise that such a statement should be made, considering the publicity he had given to the case furnished to him by Mr. Anderson, his late colleague at the Western Dispensary. It would be seen by the examination of the uterus of Mr. Anderson's patient, a young female of eighteen, who died of acute disease, with an intact hymen, which uterus was in the hands of the members, that a large inflammatory ulcer occupied the os and its vicinity. Dr. Bennett again asserted that the physical examination of a virgin female could only be warranted by severe and intractable disease, and ought always to be looked upon as a last resource—as one not to be contemplated until after months or even years of unavailing, general, and non-surgical local treatment. Dr. Bennett then recapitulated the rules which guided him in the treatment of the local element in these inflammatory affections of the neck of the uterus—it was the treatment followed in all chronic inflammatory diseases situated in a position attainable by surgical means. If

acute or subacute inflammation was present, it ought first to be subdued by anti-phlogistics and astringents; and if the morbid action still persisted, it should be modified and converted into healthy vital action by direct stimulation of the diseased tissues. This indication was obtained, in successive stages of intensity, by the nitrate of silver, solid or in solution, by the mineral acids, and lastly, by the actual cautery and *potassa fusa*, or *potassa cum calce*, which he preferred. *Potassa cum calce* was first introduced as a means of stimulating unhealthy uterine sores, and of melting impuration in this region, by M. Gendrin, of Paris. When, however, he himself left Paris, nine years ago, it had not been adopted by other practitioners. He could claim the merit of having introduced it to the profession here, and of having greatly simplified its action and use by running it into free cylinders, which could be used as easily as those of nitrate of silver, and with nearly as little risk. He had used it in scores of cases, for fourteen years, without accident, and did not consider there was any reason for apprehension, provided the operation was skilful and cautious. At the same time he never applied it to *destroy* indurated tissues, but merely to set up eliminatory inflammation, under the influence of which the indurated parts softened and melted. When applied to the os, care ought to be taken that the orifice of the cervical canal did not subsequently close too much. He had had several cases from the country, treated by other practitioners, in which the os *steri* was all but closed, for want of these precautions. He had never found any difficulty in re-dilating the narrowed os; but it was better to prevent such a result occurring, than to remedy it when produced.\*

9. *Hysteria*.—Mr. Robertson has given a good account of this Protean malady in the work from which we have already quoted.† He denies the ancient opinion, still maintained by many, that the affection is essentially allied to a morbid condition of the uterine organs. He also refuses to localise the disease in the brain. He does not, however, throw much additional light on this confessedly obscure question. The hysteric constitution he defines to be a peculiar irritability of the nervous system generally, with deficient resisting power to hurtful impressions. The state is, he thinks, congenital, but may be aggravated by injudicious education. He alludes to the power which certain females have of reproducing the hysteric paroxysm at will, and looks upon many of the remarkable cases of imposture now and then met with, as connected with this power, though associated also with defective moral organisation.

*Uterine Appendages, Inflammation and Abscess of*.—The causes, symptoms, and treatment of pelvic abscess, has been made the subject of a paper by Mr. Jennette,‡ which our space did not allow of our noticing in the last volume of the "Abstract."

The causes of the disease in the non-*puerperal* state are stated to be, any that increase the vascularity of the part, or arrest the function of the uterine system.

The symptoms resemble those of the *puerperal* variety, but are less intense, more chronic, and the abscess generally open, either by the rectum or vagina. As there is so great a resemblance in the *puerperal* and non-*puerperal* varieties of the disease, the author borrows the description of the symptoms from the former. The disease generally commences with a rigor or a succession of shiverings; there is more or less fever, occasionally remitting; pulse varying from 90 to 110; pain in the abdomen; the patient generally feels better in the morning, with increase of fever in the evening; the uneasiness and pain increase as the disease advances; sometimes there are pains resembling sciatica in one or both legs; painful micturition, and tenesmus occasionally of a most distressing character; the secretion of milk generally is suppressed, the lochia sometimes; tongue is coated; the patient becomes emaciated, is subject to hysterical paroxysms, frequently vomits, and sweats profusely on falling to sleep. These symptoms, inasmuch as the formation of pus in phlegmon of the iliac fossa is remarkably slow, may continue for a considerable time if over-

\* *Lancet*, &c., April 19, 1851.

‡ *Medical Gazette*, August 1850.

† *Op. cit.*, p. 203.



looked, or not relieved, until the matter is evacuated, either by a natural or artificial opening. On examining the abdomen, it will be found that, although the patient complains of pain all over it, pressure over the pelvic portion aggravates it, while elsewhere it relieves it; showing that the general pain is neuralgic, whilst the local proceeds from inflammation. In one or other iliac fossa will generally be detected by the touch, a tumour with a brawny hardness, but not always, as in one of my cases which is hereinafter described; but in every case it may be detected, and the true nature of the disease known, by *vaginal* or *rectal* digital examination. It has been stated by some writers, Lever for example, that the disease is more frequent on the left side than on the right; but, as far as the author can find, by reference to published cases, it is equally liable to attack either: thus, out of forty-one cases, nineteen were on the right, nineteen on the left, and three on both sides.

The terminations of the disease may be, 1st, resolution, which is, of course, the most favourable, and one which we may reasonably expect to induce, provided we ascertain the nature of the disease before it becomes too far advanced: hence, examination with the finger in the vagina or rectum is so important, and also the great error of attributing too hastily, and without careful examination, painful affections of the iliac fossa, or abdomen, after parturition, to neuralgia, irritable uterus, &c. Puzos, Marchal, Churchill, and others, relate several cases where this happy result took place. 2dly, suppuration. When, either through neglect, or the inefficiency of the remedies employed, resolution does not occur, an abscess is formed, the purulent matter of which is said sometimes to be absorbed, but more generally it finds its way either externally through the abdominal walls covering the tumour, into the peritoneum, after giving rise to fatal peritonitis, into the vagina, bladder, rectum, or uterus, and sometimes through the femoral ring or thyroid foramen. Among 37 cases in which the matter escaped, 11 opened through the vagina, 9 by the abdominal walls, 5 by the bladder, 3 by the inguinal ring, 3 by the rectum, 3 into the peritoneum, 1 through both vagina and rectum, 1 into the uterus, and one through the thyroid foramen. 3dly, the intensity of the disease, or the secondary affections induced by it, may prove fatal after an indefinite time.

*Diagnosis.*—The author informs us, that the vaginal examination is in itself sufficient to distinguish this affection from any other; but as this will not always be permitted, and the disease has been, from time to time, mistaken for others, it is right to study its peculiarities; particularly as, when it occurs independently of child-birth, or a considerable time after, it may not be so reasonably expected. Abscess of the abdominal parietes may be distinguished from it, by causing the patient to lean on her knees and elbows, when the tumour will be found to move with the parietes, while in iliac abscess you can move them over it. The pressure of the tumour on the nerves may cause pains resembling sciatica; but a careful examination, together with the history of the case, ought to be sufficient to show the nature of it. In like manner may be distinguished lumbar abscess, pregnancy, &c. From peritonitis it is easily distinguished by the neuralgic pain, and several of the symptoms of peritonitis being absent: however, peritonitis may occur as a consequence of the disease in its advanced stage, either on account of the abscess bursting into the peritoneal cavity, or in consequence of the extension of the inflammation from the uterine peritoneum. But this only occurs when the disease has existed for some time, and is easily known by the aggravation of the pains and fever. The author has known it to be mistaken for hernia, and considerable pressure used for the reduction of the supposed rupture with apparent effect, owing, perhaps, to the mobility of the parts within the abdomen.

*Prognosis* should be guarded, inasmuch as peritonitis sometimes occurs from the matter finding its way into the abdominal cavity: besides, when it discharges through the vagina or elsewhere, fistulous openings may remain, and the flow last for a time long enough to cause the patient to sink; and it also sometimes happens that the disease returns when the uterine functions are again called into play.

*Treatment.*—The indications are twofold. To produce resolution if possible; if not, suppuration and evacuation of the matter as soon as possible. Several

published cases prove that resolution will often occur under proper treatment; we must remember at the same time that patients with this disease will seldom bear heroic remedies, as general bleeding, &c.: a dozen leeches, applied two or three times if necessary to the seat of pain, or a smaller number to the vagina, by means of the speculum, poultices, fomentations, injections of warm water into the vagina and rectum, and mercury so as slightly to touch the gums, may succeed in arresting the progress of the inflammation; the secretions must at the same time be attended to, not inducing, however, much purging, which gives pain: light bland food is to be given, opium may be necessary sometimes to soothe the pain, and in the form of enema or suppository is very useful for relieving the tenesmus, which is often very troublesome. If we do not succeed in arresting the inflammation, and that it is evident suppuration has taken place, we must endeavour to promote the formation of pus and its discharge. Poultices and fomentations are to be persevered in, and the abscess opened as soon as possible; this may be done either through the abdominal walls, through the vagina, by means of a speculum and guarded lancet, or through the rectum by means of a trocar and canula; and it will be right to select for operation that part to which, in the individual case, the matter is nearest, and the abscess most closely connected with.

After the matter is discharged, of course the patient's strength must be kept up with generous food, wine, &c.; and, should any hardness remain, small doses of potass. hydriod. in decoction of sarsaparilla, &c. should be administered.

—M. GUBLER\* narrates several cases to show that in abscess of the broad ligament, the pus may follow the course of the round ligament, and appear at the inguinal canal: thus in some respects simulating hernia, for which, without due caution, it might be mistaken, more especially as the swelling will receive an impulse from coughing.

11. *Ovarian Tumour. Death from an unusual cause.*—This notice refers to a case related by Dr. VAN BUREN, in which symptoms of peritonitis occurred spontaneously and destroyed the patient. After death it was discovered that a large ovarian cyst attached by a slender pedicle to the uterus had become twisted, so as to strangle the connecting tissues. This, he considers, was the starting point of the fatal symptoms. The case is published in the "New York Journal of Medicine,"† together with an engraving, which accurately represents the state of the parts.

12. *Ovariectomy.*—We have to record several additional cases of this severe operation. The first is a successful case reported by Mr. CORNISH.‡

Lucy Bowyer, æt. 19, a lace-mender, from the neighbourhood of Chard, Somerset, was admitted as an in-patient at the Taunton and Somerset Hospital, under Dr. Woodforde, on the 25th of August, 1849. Stature five feet five inches; conformation slight but well-proportioned; sanguineous temperament. She stated that she had good health to her sixteenth year, when she suffered from general debility, with pain in the left hypochondrium, and palpitation of the heart, which was attributed to her rapid growth. The catamenial discharge commenced at the age of fifteen, was regular, and of moderate quantity, appearing every three weeks, and lasting three days, until she was seventeen, when it was suppressed for six months. On its reappearance it occurred every month, and was increased in quantity, lasting from five to seven days.

In September, 1848, whilst confined to bed by a slight febrile attack, she first became aware of a tumour about the size of an orange, a little to the right of, and below the umbilicus, not painful on pressure, and apparently unconnected with the existing illness. It gradually increased in size, but caused no inconvenience, except in the act of stooping. Her carriage resembled that of a woman in the fifth month of pregnancy, and the suspicion of pregnancy being a source of anxiety to her friends, she had consulted several surgeons, and had

\* Union Medicate, Nov. 1850.

† March 1851.

‡ Provincial Medical and Surgical Journal, Oct. 30, 1850.

been subjected to some slight treatment. On examination a firm tumour was at once distinctly perceptible extending from the right iliac region obliquely to the left hypochondrium, giving the sensation of solidity. It was freely movable in every direction; its form was round but uneven, there being a slight projection on its left side; very indistinct fluctuation could be detected, and auscultation elicited no sound. The abdominal circumference over the tumour was thirty-three inches. She consented to an examination *per vaginam*, when the hymen was found perfect; the cervix uteri small and rather high; the os circular. Raising or depressing the tumour did not alter the position of the uterus.

Having satisfied himself that the tumour was ovarian, Dr. Woodforde explained its probable course to the patient; and considering that such treatment as was calculated to arrest its progress, or lead to its absorption, likely to be prejudicial to her otherwise excellent health, he proposed to her either to let it take its own course, meeting each new symptom by such palliative treatment as might be deemed advisable, or to consider whether she would risk the operation for its removal, the dangers of which were fully explained to her. Its progress was watched during a month in the hospital, and at the end of September she was made an out-patient, requested to present herself at the hospital, and in the mean time to consult with her friends respecting the proposed operation, to which she seemed already inclined to submit.

On the 1st of December she returned, having obtained the reluctant consent of her friends to the operation, on which she herself was now fully determined; but, influenced by the consideration of its danger, she proposed to pass the approaching Christmas with her friends, if the delay would not increase the risk. At this date the circumference of the abdomen had increased to 34 inches. Sir George Ballingall, Professor of Military Surgery at the University of Edinburgh, happening to be at the hospital, kindly examined the patient, and concurred in the opinion that the tumour was ovarian.

On the 4th of January, 1850, she was again admitted into the hospital to undergo the operation. The measurement at the umbilicus was now 34½ inches; the increase was becoming more and more rapid; and her appearance resembled that of a person at the full period of gestation. The tumour was still freely movable in every direction, and no adhesion could be detected by the most careful examination; it occupied almost the whole of the anterior of the abdominal cavity, resting on the pelvis, from which it could be pushed up a hand's breadth. Percussion gave a dull sound over the whole surface of the tumour; but on pushing it aside the clear sound of the intestines could be traced all round it, except in the right iliac region, pointing out the right ovary as the seat of tumour. The uterus remained in its natural state and position, and was still unaffected by movement of the tumour. Fluctuation had become much more distinct, but unequally so, leading to the conclusion that the tumour was a multilocular cyst, and that a considerable portion of it was solid. The patient had two attacks of pain in the abdomen, following increased exertion, one of which subsided the following day, but the second was more severe: it occurred soon after her return to the hospital, and required the application of leeches and confinement to bed for three days. This having subsided, on the 25th of January a consultation of the hospital staff was held on the case, and the operation unanimously decided on, and fixed to take place after the next catamenial period.

The patient was now transferred to Mr. Cornish's care, who appointed February 13th for the operation; but as the menses appeared later than was expected, and lasted the unusual period of nine days, it was postponed to the 19th of February. In the meantime, Mr. Crouch (who operated so successfully on a similar case last year, at Bruton, in this county) saw the patient, and fully concurred in the diagnosis and proposed operation. She was confined to a milk diet from the 8th of February. On the 19th, at 1 P.M., Mr. Cornish proceeded to operate, in the presence of the staff of the hospital, and a large number of medical men from the neighbourhood. The patient was kept under the influence of chloroform throughout the operation. The preliminary steps were as follows:—In a well-ventilated ward was placed a large Arnott's stove, its flue

entering the chimney near the ceiling; on the usual fire of the ward was placed a large boiler, with a metallic pipe conveying steam constantly into the room; by these means a moist atmosphere was maintained at a temperature of 85°. On a high bed was laid a broad many-tailed bandage, on which the patient was placed.

An incision having been made through the abdominal parietes ten inches in length, extending from about four inches above the umbilicus to the pubes, avoiding the umbilicus by keeping to its right side, the anterior part of the tumour was seen; a trocar being thrust into it, a large quantity of thick, viscid, greenish-brown fluid escaped. Two slight adhesions between the omentum and the anterior surface of the tumour were divided: and the necessary handling of the omentum produced convulsive efforts to vomit, during one of which the tumour was thrown from the abdominal cavity; the operation was then completed by tying the pedicle at two points about half an inch apart, by transfixing with needles, armed with double ligatures of hempen twine, capable of sustaining a weight of 14 lbs. The pedicle was then divided above the last ligature, and two small vessels of the omentum were secured. The left ovary was examined and found in a natural state. The edges of the wound were accurately adjusted by six sutures, inserted at points marked previously to the operation with tincture of iodine, as in Mr. Crouch's case; strips of adhesive plaster being placed in the intervals, over which a compress of folded lint was secured by the many-tailed bandage. The hæmorrhage was very slight, not more than four ounces. The removal of the tumour occupied fourteen minutes.

This patient made an almost uninterrupted recovery. By the 13th of April the wound was entirely healed, and she was able to sit up and walk about the ward. On the 14th the catamenia appeared naturally, and lasted till the 18th; and on the 27th of the same month she was discharged perfectly well. Since then we have repeatedly seen her enjoying robust health; and she is now living in Taunton, as a nursemaid.

The tumour was regularly ovoid in form, and consisted chiefly of one large cyst, subdivided by several imperfect septa, in the free margins of which were about 100 smaller cysts, varying in size from that of an orange to a pea. Their contents varied considerably in consistence and colour. The specific gravity of the fluid in the larger cyst was 1023; it was highly albuminous, the whole becoming coagulated by heat. Four rather large arteries passed up the pedicle to supply the tumour.

The dried preparation measures 22½ inches in circumference, 11 inches in length, 10 in breadth, and 5 in thickness. The weight of the solid portion was 2½ lbs., and of the fluid 5 lbs.

—A case, in which the operation was commenced, but abandoned in consequence of adhesion, previously unsuspected, was read by Mr. NORMAN at a meeting of the Bath and Bristol Branch of the Provincial Medical and Surgical Association. We give the case in the author's words.

"Elizabeth North was admitted into the United Hospital under my care on the 7th of June, and was discharged on the 2d of July. At the time of her admission she was suffering much from derangement of her general health, and the menstrual function had been out of order for some months. At this time the tumour on the right side of the abdomen did not appear to be larger than an orange; no doubt was entertained of its being ovarian. The treatment was addressed entirely towards the improvement of her general health, and she quitted the hospital much improved in that respect, the tumour remaining the same."

She was admitted into the hospital again, under my care, on the 19th of September. The tumour then appeared to be nearly as large as the head of a child at birth; it was quite movable in the abdomen, and appeared to be attached below by the broad ligament of the uterus, for no doubt was entertained of its being a tumour of the right ovary. It was firm to the touch and gave no sense of fluctuation; her general health had much given way; she had pain extending over the abdomen, and at times severe cramps in the bowels; a fold of vagina protruded full two inches beyond the external pudend.

dum, even when in the recumbent position, and she had endeavoured in vain to keep this up by a pessary before her admission. It was with great difficulty the os uteri could be felt; after considerable examination it was found under the arch of the pubes. She was kept in bed, took iodide of potassium, and used iodine frictions to the abdomen, still the tumour increased in size and the pains in intensity.

The case was considered by my colleagues and myself, to be an ovarian tumour, and that if ovariectomy were ever advisable, this patient's case was one calling for it; the prolapsed state of the vagina, the weight of the tumour, and the continued pain, rendering it impossible for her to do anything for her support; the tumour was increasing, and there seemed to be no hope of its growth being arrested. It was agreed that she should discontinue all remedies for a fortnight. At the end of that time her general health had not improved, and the tumour appeared to be as large as the impregnated uterus at the fourth, or between that and the fifth month. I then explained to the patient the nature of the disease, told her that an operation had in some instances been successful in the same disease, but that the risk was great and the result doubtful. She replied that she had expected I should make the proposal to her, that she had quite made up her mind, and was ready to undergo the operation whenever I thought proper. A delay, however, occurred from her expecting to be unwell in two or three days, and it was not desirable to operate at or near that period. She became unwell, and after ten days the operation was fixed for the 8th of November. She left off meat for a few days before, and took a mild aperient. Fires were kept for two or three days in the operating theatre, and also in a small ward adjoining it, where it was intended she should remain after the operation, and where she was directed to go to bed the morning of the intended operation.

At twelve o'clock on Friday, the 8th of November, Dr. Davis, who kindly undertook to manage the administration of chloroform, put her fully under its influence in her bed, apart from all those assembled in the theatre adjoining. In a state of perfect unconsciousness she was brought into the theatre, and kept in that state during the whole time she remained there. An incision was made in the linea alba, about five inches in length, commencing an inch above the umbilicus, and avoiding that, it was extended downwards towards the pubes. The periosteum was raised with a pair of forceps, and opened to nearly the same extent: instead of any part of the tumour appearing, several convolutions of the small intestine protruded; these with some little delay were returned into the abdomen with great adroitness, by my colleague Mr. Gore, and retained there. During that time I had ascertained that the anterior parietes of the abdomen adhered very considerably and firmly to the tumour on each side of the incision; also that the adhesions below were considerable, and apparently insurmountable, and it was then discovered that a portion of the small intestine, full two inches in length, adhered firmly to the anterior part of the tumour. All hope, therefore, of removing the tumour being gone, no time was lost for the purpose of ascertaining its precise nature; but the integuments were brought together by five common sutures, straps of adhesive plaster were applied, some folded lint placed over with a bandage, and she was removed to her bed in the same state of unconsciousness as when she was brought from it. I saw her four hours after; she was then recovering from the effects of the chloroform, but was suffering from sickness, and pain in the abdomen. Pulse 115, of good strength and fullness. To take one grain of opium directly, and to have nothing but toast-water.

This patient had severe symptoms subsequent to the operation; but eventually regained her health, when it was found that there had been a spontaneous subsidence of the tumour to a very considerable degree. Upon this unusual occurrence Mr. Norman remarks—

"To account for the very considerable diminution in the size of the tumour which has taken place since the operation is a matter of difficulty, and can only be one of conjecture. It may be that a certain degree of inflammation followed the exposure and the handling of the tumour (though there was very little of the latter), and that the vessels of the normal structure of the ovary may have poured out fibrin, and so formed a barrier between the cysts forming the bulk

of the tumour and their supply, and this ultimately may have compressed and obliterated them; but be that as it may, the fact of a most important diminution remains, and as the young woman resides in Bath, I shall be enabled to know the more permanent result.

"What has occurred in reference to this tumour may throw some light on cases where such tumours have spontaneously disappeared, of which I believe there are many instances. I had an opportunity of ascertaining one recently. A lady whom I had examined several times nearly twenty years ago had an ovarian tumour, full as large as the one we have been considering. I saw her a fortnight ago on another occasion, and had the opportunity of examining the abdomen. I could find no trace of the tumour: her account was that the tumour had remained for some years as when I had examined it; that in the last few years it had gradually diminished; that latterly she could only occasionally find it, and that it was very small. I did not find it; but it may be that, being small it remains for the most part in the cavity of the pelvis; and she described symptoms which made that probable, but it was not admissible to make an examination per vaginam to investigate it."

Mr. Norman considers the above case to be opposed to the propriety of the operation, as it shows the great difficulty which exists in reference to the diagnosis of adhesions.\*

13. *New method of Operating in Ovarian Tumours.*—Mr. WILSON, of Bristol, has reported cases illustrative of a modification in the operation for the radical cure of ovarian cysts. The principles of this operation are:

1st. To make as small an incision as possible.

2d. To draw out only as much of the cyst as could be extracted readily, and without displacement of the other contents of the abdomen.

3d. To endeavour to keep the wound always filled with the cyst, so that neither air nor fluid should be admitted into the cavity of the abdomen.

4th. To cut off the cyst, not close to the wound, but from one and a half to two inches beyond it, so that when the portion of the cyst has been removed, the cut margins could be carefully examined, and the vessels secured.

5th. To secure each vessel on the cut margin of the cyst, separately, by a fine silk, and to cut off both ends close, so as to have no ligature hanging from the wound.

6th. To close the external wound as quickly as possible.

In describing an operation conducted on these principles, he proceeds as follows:—

"The patient was brought to the foot of the bed, opposite a good light, and placed under chloroform. I made an incision two and a half inches long, commencing two inches below the umbilicus, and half an inch to the right of the median line, to which my incision was parallel. I carefully dissected through the rectus muscle and its sheaths to the peritoneum, which was opened and divided on a director. The white shining cyst was then laid bare, and each respiration showed such free and independent movement of the parietes over the cyst as to confirm my hope and expectation that no adhesion existed.

"The next step was to introduce a long needle through the cyst at right angles to the wound, so as to keep the cyst up to the upper angle, whilst the fluid was evacuated by introducing a trocar at the lower angle of the wound. This was done, and thirty-one pints of remarkably clear, limpid, and colourless fluid were drawn off. The effects of the chloroform had now passed off, and were not renewed. A portion of the cyst, forming a bag eleven inches long and fifteen inches wide, was then removed by the scissors; there was free bleeding from various small arteries at the surface, each of which was separately tied, care being taken that the ligatures included both layers of which the cyst was composed. The number of the ligatures was as many as thirteen. The remainder of the cyst was then returned into the abdomen, and the wound closed with three sutures; and a circular bandage having been applied, the patient was placed in bed."

The patient recovered, as did a second, also narrated in the same essay.

### ‡ III.—Pregnancy—Labour—the Puerperal State.

13. *Pregnancy, Signs of.*—In the volume before mentioned, by Mr. ROBERTSON, of Manchester, there is an instructive chapter on the difficulties which occasionally attend the diagnosis of the pregnant condition; and well-selected cases are given to illustrate the chief points in which the practitioner may occasionally find himself at fault. As a guide to the inexperienced, the author advises the adoption of the following rules, which, if attended to, will often obviate the unpleasantness of an error which is always visited with ridicule by the public:—

Always *doubt* pregnancy in the married when there is a regular, periodic bloody discharge, however slight it may be.

Always *suspect* pregnancy in the married during the child-bearing period whenever the menses are unduly absent.

*Suspect* pregnancy in the unmarried in the lower classes, especially servants, when the menses have been suspended for a couple of months.\*

14. *Pregnancy and Malignant Disease of the Uterus.*—In the "London Journal of Medicine," March, 1851, papers on this subject appear by Drs. OLDHAM and CORMACK.

Dr. Oldham's cases are instances of pregnancy co-existing with ulcerating carcinoma, the first of which was fatal from rupture of the uterus; the second required the aid of craniotomy; in the third the woman died exhausted by the disease, soon after labour.

In his remarks on these cases, Dr. Oldham adverts to the rarity of the occurrence of pregnancy in ulcerated carcinoma of the womb; and states his belief that many supposed instances of this kind have not been true cancerous degeneration, of which there is no certain diagnosis previous to the commencement of ulceration.

When pregnancy is present, and the pre-existence of cancer is not known, the author points out the likelihood of the symptoms being referred to some of the morbid conditions incidental to gestation; and therefore urges the importance of making vaginal examinations, whenever during pregnancy bleeding occurs frequently after walking or other exertion. Such may be the result of comparatively unimportant uterine affections, as granular ulceration, &c., but it also is indicative of malignant disease. In the latter case when advanced to ulceration, he describes the circle of the os as more open than in normal pregnancy from loss of substance; while its edge and inner surface is uneven and breaks down under the finger, which is endued with a fetid discharge.

The prognosis in this complication is given by Dr. Oldham as unfavourable both to mother and child. The mother may die from the disease before labour, or during labour, from exhaustion or rupture. After delivery her death from the disease is precipitated.

In speaking of the treatment of pregnancy complicated with malignant disease, Dr. Oldham speaks chiefly of our measures inductive of premature labour, craniotomy, division of the diseased tissues, and the Cæsarean section. Dr. Lee is strongly in favour of the former of these ("Clinical Midwifery," 2d ed., p. 94), and the author approves of it when the membranes can be readily reached; but he thinks its propriety questionable when the cervix is blocked up by the disease, and a diseased mass must be ruptured in order to reach the ovum.

When labour sets in, he advises non-interference as long as the general power and the uterine action are well sustained. If the os is unyielding, incisions have been practised with advantage, when the induration is not malignant; but the author does not entertain the idea in the cases in question.

Of the alternatives of craniotomy and Cæsarean section, the author prefers the former if there be any prospect of delivery per *vias naturales*; but if the patient's powers do not seem equal to the shock of a protracted labour through lacerable and bleeding structures, and the foetal heart is heard to beat, he thinks

\* Op. cit., p. 409.

the latter alternative should be adopted as likely to preserve the child's life, under a condition hopeless to the mother. \*

Dr. Cormack's case is mentioned as one of cauliflower excrescence complicated with pregnancy. The patient recovered from the labour, but the disease made progress, and the operation of excision was subsequently practised. The dist case, however, returned, and proved fatal; the subsequent history proved it to be fungoid ulceration rather than true cauliflower disease.

15. *Labour—Liquor Amnii in excess.*—The following case occurred to Mr. Drew, who narrates the facts.

"Mrs. F—, æt. 31, a healthy-looking woman, rather stout, a laundress, and mother of nine children. A fortnight before the day on which she was confined, she was taken faint without any apparent cause, whilst walking. She recovered from this; but before she reached home she was again taken faint. She had suffered from much pain in the right hypochondrium, in which situation there is a great depression. The seat of pain could be covered with the top of the finger, and was increased after the occurrence of the fainting. This event was followed by rapid enlargement of, and intermittent pains in, the abdomen; the pains were aggravated by taking warm drinks, and continued to torment her up to the time of her confinement. The movements of the child, which, previous to the syncope, were distinctly perceptible, after that occurrence entirely ceased.

"At the time I first saw her (two days before her confinement) she was about eight months gone with child, very large, scarcely able to move about, and complained of pain in the back and bowels, and a sense of great weight in the right groin. Distinct fluctuation could be felt in the abdomen, but no part of the child could be distinguished by external examination. As the bowels were costive, I gave her a dose of castor-oil, and, to procure rest, 20 minims of liq. opii sed.

"Sept. 22. I was called up at a quarter past four in the morning. She had been in labour two hours. Os uteri nearly fully dilated; and the bag of membranes protruding through it. The os having been dilated fully in about an hour, the membranes gave way, and a large quantity of liquor amnii was discharged. As pain succeeded pain, the flow of fluid was unceasing, coming in gushes with the pain, and completely deluging the bed. The presentation was the vertex. A female child was born at seven o'clock with the cord round the neck. The placenta came away a few minutes after, and the uterus contracted firmly. The after-pains were rather severe. She did well, and came down stairs on the third day.

"As she was confined in bed I could not exactly estimate the quantity of liquor amnii; but I think it was at least two gallons. For her seventh child she was confined out of bed; there was then so much water, that, to use her own expression, the room was deluged. She thinks the quantity in this case about the same as in the ninth.

"The child was in a state of decomposition, having most probably been dead a fortnight. The bowels were much larger than usual, and decomposition had advanced in them, particularly around the umbilicus, much further than in any other part of the body. The placenta was also in a state of decomposition; likewise the umbilical cord. The child was large for eight months. I did not examine particularly the condition of the membranes.

"Out of nine she has two living healthy children; the quantity of liquor amnii was excessive in the majority; in the third and fourth labour only, was it normal in quantity."\*

17. *Thrombus.*—A peculiar variety of thrombus is described by Dr. MONTGOMERY,† consisting of an effusion of blood in the tissue of the uterus, near the os, and especially in the anterior lip of the latter. The author's attention was first directed to this variety of the disease in a case of labour. On examination, *per vaginam*, on account of hæmorrhage, he found the lower part of the cervix thick,

\* Lancet, Jan. 18, 1851.

† Dublin Quarterly Journal, May 1851.



prominent, and spongy, so as to resemble a portion of placenta. As labour advanced the contents of this swelling were discharged, and the hæmorrhage ceased.

The author has recently seen a second instance of this kind. The lady was the mother of four children, and her labour was in every respect satisfactory. Shortly after the discharge of the liquor amnii, the anterior lip of the os uteri began to swell, and eventually was protruded under the arch of the pubis with each pain; it was of a dark purple colour like black coloured jelly. Suddenly it disappeared, and an ounce or two of thick blood escaped.

The circumstances under which the issue of thrombus is met with, are described to be as follows: "about the time when the os uteri is about more than half dilated, especially if the waters have been evacuated, we find the anterior lip gets gradually fuller, thicker, and more prominent, and instead of yielding readily before the pressure of the head, continues to descend, as the head is forced downwards, and if we try with the finger to push it past the head, and out of the way, we do not succeed." An unexpected delay now takes place, and a labour which we had every reason to suppose would go on quickly, is protracted for two or three hours. At length the swollen labium diminishes, suddenly recedes and disappears, and very often at the same time some blood is discharged of a deep rich colour."

—A case which proved fatal from the rupture of a tumour of the above kind is published in the same Journal by Dr. JOHNSTON, and is referred to in the paper just noticed. The case is as follows:—

M. H.—, æt. 35, a strong, robust country-woman, was admitted into the Rotunda Lying-in Hospital, late on the night of the 21st September, 1850, labour pains having unexpectedly set in about three hours before. She states that it is her seventh pregnancy, and that she has five children living, one having been dead-born at the full period, for which she could assign no cause; had always easy confinements; that, considering herself to be not more than in the eighth month, she had travelled up on foot from the country, a distance of eighty miles, about four or five days previously, for the purpose of arranging pecuniary matters, calculating that she would be able to return home in sufficient time to be confined. During her journey, which occupied upwards of two days, she suffered much from fatigue, and exposure to cold and wet, which, together with her distress of mind, occasioned by the purport of her mission, all tended to bring on premature labour. The foetal heart could not be heard, nor had she felt the motion of the child since her arrival in town. On examination *per vaginam*, the os uteri was found to be about the size of a crown-piece, breech presenting, membranes unruptured, pains apparently not of much strength. However, after a short and easy labour of about four hours' duration, the child was born with the membranes entire; on rupturing them it was discovered to be a female of about eight months, and bore evident signs of having been dead for some time. The placenta was expelled in about ten minutes afterwards; no hæmorrhage nor any untoward symptom supervened, and everything went on favourably for the first three days. The milk was secreted on the second day. At the morning visit of the 25th (her fourth day), she expressed herself quite strong; a cough, which she had contracted on her journey, much better; no complaint, nor any uneasiness whatever. At half-past 1, P. M., the nurse called me in a great hurry, stating that the patient had been suddenly attacked with violent hæmorrhage. On inquiry I found that she had not been out of bed, nor had she been using any exertion. On reaching the bed-side (which was in less than a minute after hearing the report, and certainly not more than three from the first gush of blood), I found her lying on her back, countenance perfectly blanched, and expressive of great anxiety, which, with her neck, hands, and arms, was bathed in cold, clammy perspiration. No pulse could be felt at the wrist; and the bed inundated with blood, which was still flowing rapidly from the vagina. The pillows were at once withdrawn from underneath her head, thus placing her completely in the horizontal position: firm pressure was made over the uterus (which was found well contracted); cold applied externally, and a stream of cold water was injected into the vagina and rectum.

She was given three ounces of wine, with half a drachm of ergot of rye; at the same time a current of cold air was allowed to pass across her face; all of which had the effect of restraining the great flow, but not of completely checking the hæmorrhage, for a slight trickling still continued. However, having restored somewhat the temperature of the body, by means of hot jars to the feet and warm blankets to the extremities, by stimulants (brandy) frequently repeated, beef-tea, &c., we were enabled once more to feel the pulse at the wrist; the colour of the countenance returned slightly, giving us hopes that the worst had been overcome. The ergot was repeated, with forty drops of the acetum opii in an ounce of brandy and water, and pressure was maintained over the uterus by the hand for nearly half an hour. When about re-applying the binder, another sudden flow of blood took place, the hand being still on the uterus, and with it the expulsion of a large coagulum. She again became pulseless and fainted, cold, clammy perspiration once more bedewing the surface of her face, neck, and arms; this was succeeded by extreme restlessness with great anxiety, and the respiration became laboured and gasping. Stimulants were again attempted to be administered, but they were with difficulty swallowed, and shortly after rejected; and she too soon gave evidence that all our efforts were unavailing, as she rapidly sank, just one hour and a half after the first attack of hæmorrhage.

*Autopsy.*—The thoracic and abdominal viscera were found quite healthy, but pale and bloodless. The uterus was well contracted down in the pelvis. On closer inspection, just beneath the peritoneal covering, in the left iliac fossa, a tumour of moderately firm consistence was seen, about the size of a large walnut, having an ecchymosed appearance, which extended also some little distance on the outer side; this tumour was firmly attached to the lower part of the uterus. On removing the latter with its appendages, and laying it open from the os to the fundus, cutting in the mesial line through the anterior wall, the muscular structure was found to be quite healthy, and that portion of the inner surface which had been occupied by the placenta was well plugged with a dark and firm clot, portions of which were seen entering the mouths of the uterine sinuses; thus proving that they had not been the source of the hæmorrhage. On the left side of the cervix, about one inch from the os uteri, was observed a ragged, sloughy-looking opening, the edges of which were very irregular, and of a black ash-gray colour. This opening, which was large enough to admit two fingers easily, communicated with a cavity the size of a small orange; it seemed to be formed in the substance of the cervix, and its external wall was found to be the projecting tumour before mentioned, as seen from the outside. On laying open this cavity, and washing away some loose clots (but carefully observing that there were no laminated coagula), the lining membrane was found rugous, of a firm consistence, and resembling very much in appearance the mucous membrane of the vagina. Opening into this sac were seen the mouths of five or six blood-vessels large enough to admit a small bougie. Upon introducing a blow-pipe into these open mouths, and inflating them, it was clearly demonstrated that they communicated with the uterine sinuses, for bubbles of air could be driven out of the vessels at the edge of the uterus where we had divided it, and, with care and delicate manipulation, pieces of bougie could be passed for a distance of nearly three or four inches along these ducts, which ran in various directions, some longitudinally, some transversely, and could even be protruded in one or two instances through their cut openings.

This case was read before the Obstetrical Society on the first night of its meeting this session, when it was considered by some of the members present to be a thrombus or bloody tumour occurring during labour. This opinion, so far, at least, as the former part of it is concerned, has been corroborated by Dr. Carte, the Curator of the College of Surgeons' Museum, who was kind enough to make a careful examination of the sac; but at what period the formation of it took place remains doubtful, for it hardly could have occurred during labour, which was extremely easy, as is evidenced both by the short time it occupied and the manner in which the fœtus was expelled—viz., in the membranes. It is, therefore, a case of peculiar interest, as well as an instance of one of the many casualties the obstetrician is liable to encounter in his course of practice,

by which his reputation might be placed at stake, and his character deeply involved; distressing, too, from its being almost, if not wholly, beyond his control, and which the vigilance of his most watchful anxiety would be unable to foresee.

18. *Scarlatinoid Rash after Delivery.*—The following case, which offers phenomena of rare occurrence, is reported by Mr. FALLOON:\*

He was called, Nov. 20, to attend Mrs. A—, aged 26, at 1 o'clock, midnight, with her second child; had been complaining since 11 P. M.; pains increased; head presenting, and pressing much on the linea of the os pubis, where she referred all her pain. At 2 o'clock sudden fainting came on, with deadly pallor and cold extremities; on rallying from this by brandy, open windows, &c., her pains brisked up, and the uterus dilating, but interrupted frequently by the faintness, which kept recurring without any external hæmorrhage, till 3 o'clock, when she had a fearful rigor; rallied again, and became less faint, but complaining loudly, and beseeching for chloroform, which he was ultimately obliged to give her, with great benefit, till her child was born at 5 o'clock, A. M., without any unusual detention in the vulva, but dead, and, immediately on its exit, the placenta followed, accompanied by an enormous clot, as large, if not larger than the placenta; the subsequent hemorrhage was not excessive, but the faintness was extreme; nevertheless the uterus contracted well. The shock of her child's death, added to her exhaustion, made her case very critical for some time (having lost her first from erysipelas); she looked blanched and anæmic to a high degree, but gradually improved. On the third day the author was surprised to find her covered by a scarlatinoid rash, she having had both scarlatina and measles. He had not met with this symptom before, and it was the more unaccountable by being unaccompanied by any appreciable fever; pulse 96. He ordered a mild alterative and cooling aperient. Visiting early next morning, he found the patient improved; but the rash still out, but paler; no febrile symptoms. He ordered a more generous diet, and it continued to disappear daily; and she ultimately did well, and was able to appear at her dinner-table in little better than a month.

[The author refers to a paper by Dr. Cormack, in which a similar appearance is attributed to the entrance of air into the uterine sinuses.]

19. *Ruptured Perineum, Means of Preventing.*—Dr. EICHELBERG,† in order to prevent the occurrence of rupture of the perineum in labour, proposes to incise it to a certain extent. The practice will not, we imagine, find many imitators.

20. *Central Rupture of the Perineum.*—An instance of this accident was narrated to the Obstetrical Society of Edinburgh, by Dr. THATCHER. The patient had been in labour some hours; the first stage was over, and the head advancing correctly. The parts were well relaxed, and the pains moderate; but the patient was uncontrollably restless. The sacral part of the vagina appeared deeper than natural, and the head pressed continually backwards. Every exertion was made to direct the infant in its proper direction; and a sudden pain forced the head through the perineum, between the lower commissure of the vulva and the anus; the body and placenta followed, the commissure fortunately not giving way. The lacerated wound healed rapidly.‡

21. *Quintuple Birth.*—Dr. SERLO,§ of Krossen, relates the following remarkable case. The mother, æt. 34, had had five favourable labours, and was now pregnant for the sixth time. During the last few weeks she had become so large and cumbersome as to be obliged to keep her bed. Dr. Serlo saw her the day before delivery, and found her abdomen enormously distended in every direction, and hard, and projecting much towards the right. The foetal movements were feeble. She was weak, and had a small, rapid pulse, with œdema

\* Medical Times, Jan. 18, 1851.

† Revue Medico-Chirurgicale.

‡ Edinburgh Monthly Journal, Jan. 1851.

§ Med. Zeitung; Brit. and For. Med.-Chir. Rev., April 1851.

of the thighs and legs. On examination, the os was found partly open, and the membranes flaccid; but no part of the child could be felt. As the pains proved very inefficient, Dr. Serlo next day delivered her by the forceps of a small living child, and soon after of another, which presented by the feet. In like manner three others were successively delivered by the feet, the accoucheur breaking the bag of waters in each which presented while he was in search for the placenta. Contraction of the uterus was produced after some minutes.

All the children were alive and crying; but the second died in three hours, the fourth in twelve, the third in seventeen, the fifth in twenty-five hours; and the first, which had been delivered by the forceps, in nine days. The author supplies the weights and admeasurements of the children and the funes; but we are not aware of the exact relation which those of that part of Germany bear to our own.

|              | Length.      |              | Weight.            |           |
|--------------|--------------|--------------|--------------------|-----------|
|              | Child.       | Funis.       | Child.             | Placenta. |
| 1st child .. | 15 inches .. | 24 inches .. | 3½ civil pounds .. | 28 oz.    |
| 2d " ..      | 12½ " ..     | 11 " ..      | 2½ " ..            | 14 " ..   |
| 3d " ..      | 13 " ..      | 15 " ..      | 3½ " ..            | 25 " ..   |
| 4th " ..     | 14 " ..      | 14 " ..      | 3 " ..             | 20 " ..   |
| 5th " ..     | 14 " ..      | 11 " ..      | 3 " ..             | 20 " ..   |

22. *Dystocia from Twins joined by the Breast.*—The following case is narrated by Dr. CHARLES STUART. He was called to a female, æt. 22, in her first labour. On examination, the os was dilating, and the soft parts moist and distensible. In the progress of the labour, the head was born at 7 P. M., after severe and long-continued expulsive pains. Instead, however, of any abatement of the difficulties of parturition at this stage, they seemed increased, and it was evident that some cause of delay existed. The nature of this was not readily ascertained; but, after a time, another head descended, when the nature of the case became evident—the two children, males, being joined from the sternum to the umbilicus. This connecting band was seven inches long and three inches broad. The patient recovered with ordinary facility.

23. *Secondary Hæmorrhage after Delivery.*—This term is applied by Dr. M'CLINTOCK in a comprehensive essay,\* to hæmorrhage which occurs at a considerable interval after parturition, as in the instance which appears among our extracts in the present volume. The causes which give rise to this accident are described as numerous. The first mentioned by the author is retention of a portion of the placenta in the uterus. He says:—"This is generally the result of artificial removal of the afterbirth, and may happen to the most skilful, where the cause of detention has been morbid adhesion. The occurrence of secondary hæmorrhage is often regarded as a sort of *primâ facie* imputation upon the accoucheur in attendance, implying some mismanagement of the third stage of labour, or some want of prudence in the subsequent treatment. The prevalence of such an opinion may, perhaps, account for the silence of authors upon the subject. Without attempting to deny that this event is occasionally the result of ignorance or rashness, still no one can affirm that it is always so, no more that it could be said of convulsions, of ruptured uterus, or of any of the other casualties incident to labour. Secondary hæmorrhage, then, may, and very commonly does, arise without a shadow of blame being attributable to the attendant; and of this we shall furnish abundant evidence further on."

The symptoms produced by the retention of a portion of placenta seldom make their appearance before the third or fourth day. The ordinary course, as quoted from Ramsbotham, is as follows:—"For the first day or two the patient suffers little inconvenience beyond that which arises from loss of blood, and the more frequent and violent returns of the after-pains. The secretion of milk is occasionally established; but the act of suckling produces an increase of uterine pain. These temporary returns of pain at length terminate in uneasi-

\* Dublin Quarterly Journal, May 1851.

ness of a more settled and more permanent description, which insensibly increases in degree, until it assumes the character of a continued tenderness of the uterine tumour, which is temporarily increased by the pressure of the hand. The uterine tumour is generally found well contracted. After the lapse of a few days, the local uterine irritation is transferred to the system, which is evinced in the accession of rigor, restlessness, watchfulness, anxiety, and the future progress of febrile symptoms. The pulse becomes at first quickened, afterwards hurried; the skin is dry and hot, especially on the belly; the face, though generally pallid, appears occasionally flushed, as if under the influence of hectic fever; respiration is quickened, and soon becomes laboured; the head is attacked with pain, which is continually upon the increase, until it ends with delirium; (sometimes the pain in the head is described to be of the pulsatory kind, resembling the tick of a clock;) the appearance of the tongue is variable—sometimes it is dry, white, and furred—at others it is dry and red; the eye at first assumes a glossy, and afterwards a languid appearance; the stomach is nauseated, and rejects the fluids taken into it, which are quickly altered in appearance and taste; and if the secretion of milk has been established, it gradually declines, until at length it disappears."

The author does not agree with M. Baudelocque, that hæmorrhage is the event most to be dreaded in relaxed placenta. He looks with more apprehension on the possible occurrence of uterine or crural phlebitis. Still he admits that death may occur from loss of blood alone. The hæmorrhage in this case seldom appears before the fourth or fifth day, and may be postponed till the second week, or later.

The period at which the decaying fragment of placenta may come away is very uncertain, sometimes it is deferred to the third week.

The second cause mentioned is retention of a coagulum in the uterus. On this the author observes, that its retention beyond the first few hours after delivery, is not apt to take place, as a very moderate degree of uterine action would be sufficient to expel it, or to prevent its formation. Should it occur, however—and experience shows that it may—there will be constant risk of hæmorrhage so long as it remains in the uterine cavity. The immediate or exciting cause of the effusion in these cases is, in the author's opinion, some accidental displacement of the clot, or excitement of the arterial system. A woman "had frequent discharges of blood from the uterus for the first ten days after delivery, until at length, the hæmorrhage becoming profuse, and her strength much reduced, the hand was passed into the vagina, and the fingers introduced into the uterus, by which means some coagula were removed, and the discharge ceased."—(Collins). A fatal case of secondary hæmorrhage on the eighth day, apparently from retained clots, occurred in the practice of Madame Lachapelle. It was the patient's first accouchement, and she gave birth to twins. Immediately on the expulsion of the two-lobed placenta flooding took place in such excessive quantity, as to place her life in great danger for some hours. Notwithstanding this, she progressed favorably until the eighth day, when, in attempting to get up, the hæmorrhage recurred, and along with it there came away two fetid clots, which Madame Lachapelle considers were the cause of this fresh accession of bleeding. It was only by the liberal use of cold wet cloths, and injections of cold water, that the discharge was checked, but not before the vital powers had sustained a shock from which they could not recover. She died in the course of a few hours.

A third cause is stated to be relaxation of the uterine fibres—the author has himself met with a case, in which, on the seventh day, the uterus became so distended that the fundus reached nearly to the umbilicus. Several cases are recorded by Ashwell, Collins, Ingleby, and Hamilton.

A fourth cause adduced by the author, is an excited state of the circulation, local or general—induced by too early intercourse or exertion on the part of the patient. Such was the apparent cause in the case by Dr. Fergusson (see Art. 83), here quoted by the author.

Constipation and biliary disturbance are also occasional causes of secondary hæmorrhage. The latter is much insisted upon by Dr. Eyre, but the author is not disposed to admit its causation to the full extent.

Secondary hæmorrhage may, according to Dr. Bennet, be due to ulceration of the os uteri. It may also be produced by the presence of a polypus. It is supposed to act by preventing the perfect contraction of the uterine fibres. After noticing some other causes, as inversion of the uterus, sloughing into the pudic artery, &c., Dr. M'Clintock addresses himself to the treatment of these alarming causes.

In discussing the treatment of secondary hæmorrhage, the author follows the same order as that in which its causes have been described. It is not, he observes, to be expected that in every case coming before us we shall be able to discover the exact cause of the effusion, no more than can be done in every case of hæmatemesis, or of hæmoptysis. But this very circumstance, the absence of any obvious or assignable cause, is, *per se*, a sort of evidence, and simplifies, in some degree, the treatment. In all examples of this kind we must only be guided by the following general principles, viz.: to tranquilize the circulation, both local and general; to promote the condensation of the uterine structure; and to use such constitutional and local remedies as may tend to favour coagulation at the mouth of the vessels. It may occasionally happen, even where we know what the exciting cause has been, and are fully alive to the importance of its removal, that this may be a matter of only secondary consideration, the first object being to relieve the present urgent symptom, in fact to stay the effusion; having effected this, we can devise at leisure the best means of obviating the conditions which have led to the outbreak of hæmorrhage.

In fulfilling the first and second of the above indications of treatment, the means to be employed are sufficiently obvious. Perfect rest in the horizontal position is to be strictly enjoined, and stimuli of every kind rigidly withheld; the patient must lie on a hard bed in which her hips cannot sink; and firm pressure, with occasional friction, should be made over the uterus, so as to promote its contraction, and expel any coagulum that might have formed within it. At the same time the ergot of rye should be administered with as little delay as possible, since, in these cases, our chief reliance for the suppression of the discharge is on this remedy. Fifteen or twenty grains of the fresh powder may be given in the first instance, and repeated, if necessary, in forty minutes or an hour. If the discharge be not very profuse, it may be more advisable to give the ergot in five or six grain doses every three or four hours. A caution should here be mentioned respecting its use. If the patient be alarmingly reduced when the practitioner is called in, the propriety of administering ergot will require serious consideration, inasmuch as this drug exercises a decidedly sedative influence upon the system. This property, which, doubtless, enhances the efficacy of ergot in many cases, renders its exhibition questionable where extreme exhaustion is present. If the patient has been only a few (two, three, or four) days brought to bed, it is not desirable on slight grounds to have recourse to cold applications, for fear of inducing uterine inflammation; but if she have been longer confined, or if the flux of blood be immoderate, the same objection does not obtain. The ordinary modes of using cold for the suppression of uterine hæmorrhage are well known, and need not here be described. I have seen very excellent effects from an enema of cold water, in which a spoonful of common marine salt had been dissolved. If the bowels require to be unloaded, the enema produces a doubly good effect. Having, by the diligent and judicious employment of these measures subdued or greatly abated the discharge, the administration of a moderate dose of black drop, or of liquor opii sedativus, may be resorted to with advantage. It proves useful in many ways; it induces sleep, "nature's sweet restorer;" it allays the nervous excitement and irritation, which so constantly are present in the secasæ; and it tends to tranquillize the circulation.

It occasionally happens that these means are found inadequate to accomplish the desired end, and something further must be done. To meet this exigency we possess a very powerful resource in the tampon or plug. The danger to be apprehended in using it, is internal hæmorrhage. Baudelocque and Madame Lachapelle have both recorded cases where a fatal result was produced in this way, one on the seventh, and the other on the fifteenth day after delivery. The latter author observes that, if the patient have been one or two weeks

brought to bed, it is barely possible for the uterus to become distended with blood. If the vagina be inflamed or sloughing, either condition would of course forbid the use of the tampon, and under these circumstances nothing but the direct necessity would justify its employment. In such a case as this the author prefers trying an injection of cold water, or, better still, of cold infusion of matico, into the vagina. A silk pocket-handkerchief forms about the best material for a plug that can be used, and it is always at hand. Other substances have been recommended, such as sponge or dossils of linen, or a vulcanised Indian rubber bag, which is to be inflated after its introduction.

Where the hæmorrhage manifests a disposition to recur, or where there is time to admit of it, we should have recourse to constitutional means for its suppression. Keeping in mind the hint which Dr. Eyre's remarks supply, we should satisfy ourselves that the liver and bowels are in a healthy state of action, and, if necessary, prescribe some opening medicine. Where this has been attended to, but without effect on the sanguine discharge, some medicine from the astringent or styptic class should be tried. Acetate of lead is the one most extensively used, but the author has not seen any striking or marked result from its employment in these cases. Dr. Ingleby recommends it specially in irritable habits, but he also says, "under much depression it will be quite inadmissible." It is best given in solution, with an excess of acid, and with the addition of a small quantity of acetate of morphia. The same accoucheur states, that in cases of the kind now under consideration, he "can with much confidence recommend the sulphate of zinc, in pills of one or two grains, combined with a quarter or half a grain of opium, or exhibited in the infusion of orange-peel." The dilute sulphuric acid is another remedy largely employed as a hemostatic, but it does not seem to possess any claims for preference in these cases. Within the last few years gallic acid has taken a high place in the list of styptic medicines. The author mentions a case of excessive uterine hæmorrhage, connected with hydatids, in which the gallic acid appeared to act most speedily and efficaciously. It is reasonable, therefore, he observes, to suppose that gallic acid may prove a useful remedy in many cases of secondary hæmorrhage. The usual dose is three grains, in the form of pill made with liquorice powder and conserve of roses, every three or four hours. Where the danger is imminent, the dose may be much increased: in urgent cases of hæmoptysis, Dr. Christison has given as much as thirty-six grains in twelve hours.

The tincture of Indian hemp and the oxide of silver are two other remedies that have acquired considerable reputation in the treatment of certain sanguineous discharges from the uterus. The anti-hæmorrhagic properties of the former were discovered by Dr. Maguire, of this city; and Dr. Churchill has reported most favourably upon its use in menorrhagia. In one case of uterine hæmorrhage nine days subsequently to delivery, I made trial of it, and with a satisfactory result. Donovan's tincture of the resin was the preparation employed in all these instances.

Some time back attention was drawn to the advantages of oxide of silver in menorrhagia, by Dr. Butler Lane and Sir James Eyre. Their observations have been fully confirmed by Dr. Thweatt, of the United States. (*Vide* "Abstract," Vol. X. p. 268.)

If the hæmorrhage is of an atonic or passive kind, approaching in character to menorrhagia lochialis, the author advises medicines of the tonic and chalybeate class. A very admirable combination in these cases is a mixture composed of sulphate of iron, sulphate of quina, dilute sulphuric acid, and water; if required, a small quantity of Epsom salts may be added.

Before concluding this part of the subject, the author calls attention to the fact, that oil of turpentine in full doses has been much lauded by Mr. Griffith, of Wrexham, in extreme cases of uterine hæmorrhage before and after delivery, as well as in menorrhagia. He gives as much as an ounce, with half that quantity of sweet almond oil, for a dose. This remedy is not suitable, he thinks, in cases where there is a hot skin, a full pulse, and undiminished strength.

Where there is ground for suspecting that the attack of secondary hæmor-

rhage results from the retention of a portion of the placenta, a vaginal examination should at once be made, to determine the question, and to ascertain whether the offending substance be accessible or not, as its speedy removal is most desirable. The author here reiterates the precept already laid down, that in no case of secondary hæmorrhage should an internal examination be omitted, since this is the only mode of diagnosis by which we can distinguish with certainty some of the causes that give rise to the discharge; and besides, during the presence of the hæmorrhage an opportunity may be afforded for extracting a clot or fragment of placenta, which might not again present itself. Where the retained mass is within reach of the finger, and can be got away without violence, there is no second opinion about the propriety of doing so. But this may not be a matter so easy of accomplishment, and the question then arises, how far is the practitioner justified in making attempts to withdraw the retained substance? This is a point on which he says it is impossible to give any definite directions in words. Dr. Ingleby's opinion is, "that whilst rashness cannot be too much deprecated, we should not be justified in abstaining from a cautious attempt, should a favourable opportunity occur, and the mass be within reach of the fingers."

Baudelocque tells us he has seen hæmorrhage from this cause not show itself till the tenth day after delivery; and he adds: "When it is abundant, as it was in that case, it requires us to pass the hand into the uterus, to extract the foreign body from it." Further on he gives more judicious advice: "If we were certain of the existence of these portions of the placenta at the time of the deliverance, it would be better to extract them immediately than to wait till succeeding accidents oblige us to it; but if we are not called till some time afterwards, there must be very great accidents to determine us to take the same method." The use of a small crotchet has been recommended by Dr. Dewees for hooking away the foreign body out of the uterine cavity; but this, or any other similar instrument, I have never seen used for the purpose, and feel convinced of the impropriety of all such attempts. If the safe removal of the retained bit of placenta be impracticable, we must only employ such palliative measures as shall tend to keep the discharge in check. Strict rest and quietness, cold applications, cold enemata, blistering over the sacrum, plugging the vagina, and the administration of ergot, may be severally or conjointly required, according to the circumstances of the case. Dewees thinks very favourably of the ergot in this kind of hæmorrhage; and as a subsidiary means for restraining the discharge, there is no doubt of its occasional value and general admissibility.

Where from the absence of any other adequate cause, and from the existence of ulceration of the os uteri, we are led to believe that this is the source of the hæmorrhage, our measures should, of course, be directed to heal the breach of surface. The treatment to be pursued in these cases does not differ essentially from that which is applicable to ordinary cases of inflammatory ulceration of the cervix uteri.

Having in any given case ascertained that the secondary hæmorrhage is due to the presence of a polypus, the leading question of practice will be the propriety of removing the growth. On this matter the author believes, that the safest and most prudent course, in cases of secondary hæmorrhage from polypus, will be to forego all attempts at extirpating the tumour as long as possible, or until the woman has recovered from the effects of parturition, when the attendant risk will be infinitely less. In furtherance of this object he endeavours to keep the discharge in check by the diligent use of cold styptics, the tampon, and, perhaps, ergot of rye. Should the hæmorrhage persist in spite of these measures, the only alternative is the removal of the tumour. Torsion, ligature, excision, or a combination of the two last, are the various modes by which this may be effected.

The situation of the growth, whether within or without the uterine cavity, the thickness of its pedicle, and the presence or absence of pain, are the chief circumstances which should influence us in determining our mode of proceeding. "If," says Dr. Oldham, "the pedicle of the tumour be within reach, I should prefer, having first tightly drawn a ligature around it, to cut off the



polypus immediately below it; as this practice would be likely to quiet the womb, besides arresting the hæmorrhage, by diminishing the foreign body which provoked its action, and would save the organ from being exposed to the influence of so much putrid matter by the decomposition of the polypus below the noose. If, however, the polypus is so enclosed by the womb as not to be so readily reached for this purpose, the application of the ligature alone upon its stem is the next best means to be had recourse to. Should the pedicle be ascertained to be small, and the growth very movable, torsion, perhaps, may be attempted."

For instructions as to the management of *inversio uteri*, when the cause of secondary hæmorrhage, the author refers the reader to the various treatises upon the diseases of women, and especially to the monographs of Dr. Crose and Mr. Newnham.

— Fourteen cases of this form of uterine hæmorrhage are detailed by Mr. ROBERTON.\* This author attributes the accident in some degree to a "menorrhagic diathesis;" but he does not advance his opinion with much confidence. His directions for treatment are judicious, as far as they go, but as he does not enter into the variety of causes which may induce the discharge, his treatment is limited to general and local hæmostatics.

24. *Puerperal Fever*.—There is no term, we believe, in the whole range of medical nosology which will, even at the time at which we write, give rise to so varied an expression of opinion as *puerperal fever*.—To one class of practitioners to whom any term ending in *itis* causes his lancet case almost to open of itself, the term is suggestive of bleeding *ad deliquium*, and calomel and opium; to another, and we believe the more trustworthy class, it has a meaning which excludes not only bloodletting, but even that refuge of the unreflective practitioner, mercury. To this latter we find Mr. GARLIKE belongs, who has endeavoured, in a very sensible paper,† to point out the asthenic character of that assemblage of symptoms to which the term "puerperal fever" is applied. Guided by the experience of a large obstetrical practice, Mr. Garlike believes that this disease is not inflammatory, but one exhibiting, when narrowly questioned, attributes the very opposite to what is generally understood by the term. He remarks particularly, that many of the patients previously to their confinement exhibited symptoms of great vital depression—with hepatic and intestinal derangement. In such, he followed a line of treatment which consisted first in loading the bowels with castor-oil and turpentine, and afterwards sustaining the patient with decoction of bark, nitric acid, and opium. Of the latter, he says, "Opium in narcotic doses is highly useful.....twelve hours' sleep is worth twenty-four hours' treatment."

[While agreeing in the main with Mr. Garlike, we should have been glad to have had a more detailed expression of his views as to the value of temperature in the asthenic form of puerperal fever. Our own opinion, confirmed by a case in which we took the most lively interest, is, that Dr. Copland expresses the exact truth, when he states that the profession at large is ignorant of the beneficial effects of this medicine. We would take the liberty of urging upon the profession in the strongest manner, the reconsideration of this mode of treatment; from numerous cases with which we are acquainted, we venture to affirm that there is no line of treatment which promises so much, in bringing to a satisfactory termination a disease which no accoucheur can reflect upon without a shudder.—Ed.]

25. *Puerperal Fever Contagion*.—The contagious nature of certain forms of puerperal fever which we have ever so strongly insisted upon in the few remarks we feel called upon to make in these Reports, meets with the strongest confirmation in some facts related by Mr. ROBERTON, in his chapter on the "Puerperal State and its Dangers."‡ The fact we allude to, is that of a particular midwife attached to the Manchester Lying-in-Charity, whose course of

\* Op. cit., p. 370, &c.

† Op. cit., p. 434.

‡ Medical Times, April 12, 1851.

service was that of death to the patients submitted to her charge. From a given date, this woman attended twenty-nine cases of labour; of these, sixteen or one half died of puerperal fever. In order to place this instructive history before our readers, we transcribe the dates of delivery as given by Mr. Robertson—taken from the woman's own diary:—

|            |    | Deliveries. | Puerperal Fever. |
|------------|----|-------------|------------------|
| 1830, Dec. | 4  | 1           | 1                |
| "          | 5  | 1           | 0                |
| "          | 6  | 2           | 1                |
| "          | 17 | 4           | 1                |
| "          | 18 | 3           | 2                |
| "          | 22 | 1           | 0                |
| "          | 23 | 1           | 1                |
| "          | 24 | 1           | 1                |
| "          | 25 | 2           | 2                |
| "          | 26 | 2           | 0                |
| "          | 28 | 1           | 1                |
| "          | 30 | 1           | 1                |
| "          | 31 | 1           | 0                |
| 1831, Jan. | 1  | 4           | 2                |
| "          | 2  | 2           | 1                |
| "          | 3  | 2           | 2                |
|            |    | 29          | 16               |

This table needs no comment.

26. *Rupture of the Uterus.*—Mr. ROBERTSON has collated thirty-seven cases of rupture of the uterus; from a consideration of which he draws the following deductions:—

1. Duration of labour previous to laceration was—

| In 2 cases | 4 hours | In 1 case | 17 hours. |
|------------|---------|-----------|-----------|
| 1 "        | 6 "     | 1 "       | 19 "      |
| 2 "        | 7 "     | 1 "       | 20 "      |
| 5 "        | 8 "     | 1 "       | 21 "      |
| 3 "        | 10 "    | 1 "       | 22 "      |
| 2 "        | 11 "    | 1 "       | 24 "      |
| 5 "        | 12 "    | 2 "       | 30 "      |
| 2 "        | 13 "    | 1 "       | 32 "      |
| 2 "        | 15 "    | 1 "       | 35 "      |
| 2 "        | 16 "    | 1 "       | 40 "      |

In the major proportion, therefore, the period was under thirteen hours.

2. Number of confinements.

| In 1 case, it was the | 1st labour. |
|-----------------------|-------------|
| 5                     | 2d "        |
| 6                     | 3d "        |
| 6                     | 4th "       |
| 3                     | 5th "       |
| 1                     | 6th "       |
| 4                     | 7th "       |
| 1                     | 8th "       |
| 1                     | 10th "      |
| 1                     | 11th "      |
| 1                     | 16th "      |

3. Situation of the rupture.

In 1 the cervix rent from the vagina.

|    |                       |
|----|-----------------------|
| 8  | laceration, anterior. |
| 11 | " posterior.          |
| 5  | " lateral.            |
| 3  | " antero-lateral.     |
| 3  | " postero-lateral.    |

4. Degree and kind of deformity most conducive to rupture. This question is not satisfactorily answered by Mr. Robertson's cases; it would seem, however, that slight contraction of the inlet is sufficient, more particularly when caused, as it generally is, by projection of the promontory of the sacrum.

The symptom which portends the accident is stated to be a crampy pain and tenderness at the lower part of the abdomen. Mr. Robertson puts little faith in those usually given by authors, as they may arise independently of the imminence of rupture.

Speaking of the prophylactic practice to be adopted in such cases, Mr. Robertson makes the remark, that, whenever the head is retained above, or firmly locked in the inlet, after labour has commenced, *imminent danger* is to be apprehended. The rules of proceeding in this emergency he lays down something to this effect:—

1. That as in the majority of instances of rupture of the uterus caused by faultiness in the brim, the accident occurs within twelve hours of the commencement of labour, the practitioner ought in every case involving this impediment to seek a consultation.

2. If there be space to admit the passage of the head, the progress of the labour should be watched. If not, no delay should be permitted. Embryulcia should at once be had recourse to. If there be satisfactory proof that the child is dead, the head should be perforated.

3. When it is determined to watch the efforts of nature, the state of the os uteri demands attention. Bloodletting may be performed, with due consideration to the powers of the patient.\*

27. *Cæsarian Section*.—Two cases of this operation have recently been recorded, and have given rise to an animated discussion at the Medical and Chirurgical Society. The first case detailed by Mr. WREN was that of a female, *æt.* 27, slightly deformed, who reached her full period of the first pregnancy with few symptoms excepting pain of a rheumatic character, and difficulty in walking. When labour came on, which it did at the end of the full period of utero-gestation, the existence of extreme pelvic deformity was at once ascertained by Mr. Wren, in whose opinion, as well as in that of Dr. West, Dr. Murphy, and Dr. Ramsbotham, the performance of the Cæsarian operation was indicated. It was accordingly performed by Mr. Skey fourteen hours after the commencement of labour, and eight hours after the rupture of the membranes, uterine action having, however, been feeble from the first, and having almost ceased since the escape of the liquor amnii. The patient was by her own desire subjected to the influence of chloroform before the operation was begun; no difficulty was experienced in its performance, and a living female child was extracted. Very formidable hæmorrhage succeeded the removal of the placenta, and the subsequent contractions of the uterus were very tardy in their occurrence. The patient was left in a state of great exhaustion, from which she never completely rallied, and died in 108½ hours after the operation, apparently from the conjoint effects of the hæmorrhage during the operation, and of the shock to the nervous system. The treatment consisted in the administration of stimulants and nourishment, both by the mouth and in enemata, and the patient was kept in the same manner almost throughout under the influence of opium. The body, on examination after death, presented no evidences of perous inflammation, but the uterine wound was gaping widely, and even that of the abdominal walls was but partially closed. The pelvis presented, in a most marked degree, all the characteristics of that deformity which is produced by *mollities ossium*; the pubic bones being projected into a beak 1·2 inches in length, the width of the pubic arch being reduced to 6 of an inch, and the distance between the tuberosities of the ischia to 1·2 inch. The writer having noticed the high maternal mortality resulting from the Cæsarian section, and which he estimates at much more than the number of 63 per cent., at which the statistics of all cases recorded since 1750 place it, since the results of cases occurring in hospitals abroad yield a maternal mortality of 79 per cent., and of

\* Op. cit., p. 320.

cases in this country of 85·4 or 87·5 per cent., according to two different estimates, proceeded next to point out the apparently inevitable causes of this high mortality. These causes he referred to four heads, and illustrated their respective influence by reference to a table of 134 fatal cases in which the body was examined after death. The four heads are as follows: 1st. The danger arising from hæmorrhage, which proceeds from a source different from that whence bleeding takes place in any other operation, and which is not capable of being arrested by the same means as suppress it under ordinary circumstances. 2d. That dependent on the shock inflicted on the nervous system, as well by the violent interference with the most important process that ever goes on in the organism within the same limited time, as by the injury to a part so important and so richly supplied with nerves as the uterus of a parturient woman. 3d. The hazard inseparable from extensive injury to the peritoneum, when unblunted in its sympathies and unaltered in its texture, as in cases of ovarian or other tumours, for the removal of which a similar exposure of the abdominal cavity is sometimes practised. 4th. That which results from the infliction of a wound on the uterus at a time when, in the ordinary course of things, the processes which nature is prepared to carry on in it consists in the disintegration and removal of its tissue—processes the very opposite to those essential to the repair of injury. From a consideration of all of these sources of danger, to the last of which attention has hitherto scarcely been directed, the author arrived at the conclusion, that, they being so serious, and so beyond the power of art to prevent, the rule which forbids the performance of the Cæsarian section, wherever there is a reasonable probability of accomplishing delivery by the natural passages, is founded on solid grounds, and ought to be adhered to.

The second case which was detailed by Dr. Oldham, is as follows:—

“The subject of this case was a rickety, deformed girl, *æt* 23, unmarried, pregnant with her first child, and seven months gone in gestation, when first seen by Dr. Oldham. On examination, the pelvis was found to be reduced to two inches in its conjugate diameter, and the uterus was much anteverted. The membranes were punctured for the induction of premature labour, in a few days after she was seen, September 23d, 1850. On the following morning, the left arm was found in the vagina, but labour did not come on until nine A. M. on the 26th. In twelve hours, the os uteri was dilated, and then some attempts to deliver her were made. The child could not be turned; but, by drawing down the protruding arm, which, from commencing decomposition, soon gave way, and pressing the abdomen from below, the head was brought over the brim, and was at once perforated. For four hours the *crotchet* was employed, both inside and outside the head, the bones of which were completely torn up, but without drawing it through the brim. At this time a new impediment was found to have arisen, from the descent of the right hand and a foot, by the side of a collapsed head, into the pelvic brim; and, on watching the effect of labour pains, all these parts were felt to be squeezed together in the narrow inlet of the pelvis, each preventing the other's descent. It was attempted to bring down either the foot or hand, but only the slippery tips of each could be touched, and they could not be moved. The patient had now been seventeen hours in labour, and it became a question for serious consideration and consultation, whether she would be able to sustain the necessary efforts for her delivery, and whether it would not be for her benefit to perform the Cæsarian section before exhaustion came on, which at length was determined on. The operation was performed by Mr. Poland without difficulty, and with little hæmorrhage, the patient being under the influence of chloroform. The incision, five inches long, was slightly curved, and a full-sized seven months' fœtus was removed, and afterwards the placenta and membranes. For two days the patient did well, but then exhaustion came on, and she died. While she lived she was kept under the influence of opium, and was sustained by simple cold drinks. On *post-mortem* examination there were some slight traces of peritonitis near the uterus. The external opening was closed, and its edges adherent, but the uterine incision was gaping. The larger omentum was indurated and inflamed, and so drawn across the uterus, above the incision, as to prevent any discharge

from the latter organ escaping into the peritoneal cavity. Two practical questions were suggested by this case. 1st. What was the best plan to attempt to follow out in the delivery at first. 2d. Were the complications such as to justify the Cæsarian section. With respect to the first, two plans of treatment might be adopted—1. To induce labour, and deliver by craniotomy. 2. To allow her to go to term, and then perform the Cæsarian section. In determining in favour of the former, the author was guided by the great probability—with a conjugate diameter of two inches—of being able to deliver with the crotchet, and he considered that his inability to do so arose from the complex presentation. With reference to the second, he was induced to have recourse to the Cæsarian section, from a conviction that the patient would probably sink under the prolonged efforts at delivery; and a case was related which occurred in the Lying-in-Charity at Guy's under Dr. Ashwell, where a woman with a far less contracted pelvis died undelivered, after the powerful and sustained efforts to relieve her. It was remarked that the girl had but a feeble constitution, which would ill support so hard a trial of its powers, and the condition of the vagina was particularly noticed as retaining the marks of early age, being structurally weak and easily lacerable, and most unfavourable for a long craniotomy operation. Under these circumstances the Cæsarian section offered a speedy and sure, instead of a prolonged and doubtful, delivery. It was not yet forbidden from exhaustion, or any signs of inflammation; on the score of suffering it contrasted most favourably with the persistence in the use of the crotchet; and, upon the whole, it was judged to offer a better chance of ultimate success. The curve in the incision was suggested to catch the outline of the muscular fibres on the inner surface of the uterus, and so favour the closure of the wound. The scanty hæmorrhage during the operation was in a measure accounted for by the uterus being at the seventh instead of the ninth month, by the placenta being attached to the posterior wall, and the uterus being opened low down towards the cervix, where the veins were less developed. Chloroform was said to be a gain in every way, and the after treatment by opium appeared satisfactory.

The discussion which ensued upon the reading of these cases, turned chiefly upon the merits of the operation of Cæsarian section. Immediately after the reading of Mr. Wren's case, Dr. Lee made a long oration, in which he rapidly reviewed the statistics of the operation, and expressed his opinion as strongly adverse to it under any circumstances.

To this Dr. Murphy replied, briefly recapitulating the salient points of Dr. Lee's speech, and defending Mr. Wren and Dr. Simpson, both of whom Dr. Lee had attacked. Dr. Murphy declared for the Cæsarian section, in those cases in which we were uncertain of saving the mother's life by perforation.

Dr. Ashwell took the side of Dr. Lee, as did also Dr. Tyler Smith.

Many other speakers took part in the discussion, which as seems to be unavoidable in obstetrical questions, was disfigured by personalities most ill-suited to the character of a scientific meeting.\*

—In the "Provincial Medical and Surgical Journal"† Dr. Radford calls in question the justice of the views of this operation, which have been taken by Dr. Lee and others, who stigmatized it as an "abomination." As an important element in the discussion, he also inquires whether there are any such certain indications of extreme pelvic deformity as to demand manual examination in a first pregnancy. He replies in the negative, and states that both by rickets, exostosis, fracture of the pelvis, or mollities ossium, such changes may occur in the dimensions of the pelvis as shall require the Cæsarian section, and yet give rise to no appearances to justify the apprehension of the necessity for so severe a proceeding until labour commences.

In a subsequent number of the same Journal‡ Dr. Radford commences the publication of a series of cases of the Cæsarian section, which we shall notice further when completed.

\* Reported in the Medical Journals.

† May 28.

† April 2, 1851.

### § I.—Diseases of Children.

A little book has reached us by a "Physician," entitled "The Child's First Hour," which, though addressed to mothers and nurses, is fully deserving of the favourable consideration of the profession. Its object is to abolish the numerous errors which are still to be met with in the lying-in room, and to put common sense ideas on the treatment of new-born infants in the place of the ignorant mismanagement, which is the rule with the monthly nurses of the present day.

28. *Causes which operate on the Proportion of the Sexes at Birth.*—The following results relative to the effect of season on fertility and the sex of the child has been obtained from an analysis of 65,542 births. The greatest number of conceptions occurred during the winter and spring months; the smallest during the summer and autumn. The greatest excess of male conceptions was in the winter.

The influence of plenty and deficiency of food, overworking, &c., is shown in the fact, that in many parts of Europe, where the general population is overworked and underfed, the excess of male births is very small, being in France and Prussia 6 per cent., in England 5 per cent. In Philadelphia, where the hygienic condition of the people is favourable, the male births exceed the female by 7 per cent. Male conceptions diminish in times of scarcity or alarm. Thus, during the cholera, in Philadelphia there was a preponderance of female conceptions. The same fact was noticed in Paris.\*

29. *On the Causes of Intra-uterine Amputations.*—Mr. GATTY has made this question the subject of a paper in the "Medical Gazette."† The inquiries which he seeks to determine are:—1st. What are the amputating agents? 2d. In what manner are they produced; how do they act; and what future influence have they on the limb, where the amputation has only been partial?

In reference to the first of these questions, Mr. Gatty states the belief of Dr. Montgomery, that the amputating agents are, almost invariably, shreds of organised lymph, similar to that effused under the influence of inflammatory action in the serous membrane, although he declares his inability to account for their production, the amputations being effected by the limbs becoming encircled in these bands, as in the case related by him already alluded to. Dr. Simpson, of Edinburgh, he informs us, also holds the same opinion; and, moreover, considers them to be the result of some kind of inflammation of the integuments of the foetus. Professor Gurlt, of Berlin, likewise agrees with Dr. Montgomery, that these amputations are mostly produced by threads; but instead of considering them as shreds of lymph, he "believes that both the formation of these shreds, and the amputations of the limbs, which are most probably in all cases produced by them, may be explained by the history of the formation of the foetus:" going on to say, "I look upon these shreds as prolongations of the egg-membrane from which the foetus grows, whether this membrane be taken as the navel, bladder, or the amnion;" in support of which opinion he mentions the case of a malformed foot, which had been adherent, at different points, to the surface of the amnion; some of these adhesions being like threads, and from two to three inches in length. These prolongations, he thinks, are afterwards, by the constant motions of the foetus, twisted into slight but firm cords, in which the limbs of the child get entangled. Against this opinion of Gurlt, however, the author advances the fact that, in many cases—indeed in most—there is no connection between the constricting band and the amnion, the cord being attached by either end to some part of the body.

As another cause of constriction, the umbilical cord is mentioned; for although from its elasticity and mobility it would scarcely be thought capable

\* Transactions of American Association, vol. iii. p. 93.

† April 11, 1851.

of producing so great an effect, still that it has such power the following examples, adduced by Mr. Gatty, will abundantly show. Two cases are related by Montgomery, in which the umbilical cord was coiled—in one round the left leg, in the other round the left thigh-joint, above the knee; and in both had deeply indented the limb. One by Schwabe, of a child born at the sixth month, in which the foot appeared in great part separated, just above the ankle, by the umbilical cord tied round it with a knot. Buchanan also relates a case of a three or four months' foetus, in which the umbilical cord encircled the neck and the right knee: the cord itself was atrophied, and at the constricted part of the knee there was only skin and bone remaining. F. C. Fourtval mentions a seven months' foetus, in which the cord, thin, long, and hard, encircled the right upper arm, near the elbow, four times, so tightly that, though the skin was uninjured, yet the muscular tissue appeared wholly lost. And a similar instance is related by Ninon, of a foetus whose thigh was so constricted by the cord, just above the knee, that the soft parts were divided down to the bone.

In all these cases of constriction by the umbilical cord, the amputation has only been partial. The author does not know of any on record where there has been complete separation of a limb from this source, although he does not doubt, if it were continued long enough, such would be the result. But he thinks it very improbable that it could be so continued, for it would most probably give rise to the death or premature expulsion of the foetus, as in the previous cases; the cause of which he believes to be the following:—The umbilical cord, whilst pressing on the soft tissues of the limb, and causing their absorption, does not suffer a sufficiently great amount of pressure itself materially to affect the blood through it; but, when all the soft parts intervening between it and the bone have become absorbed, the resistance afforded by that body, on account of its greater hardness, begins to produce counter-pressure upon the cord, thereby stopping the circulation, occasioning the death of the foetus, and consequently its premature expulsion.

But I do not suppose that death must be a necessary consequence of such constriction; for should it be late in the period of intra-uterine life before the limb becomes entangled in the convolutions of the cord, parturition would most probably occur ere the pressure had gone on to such an extent as to cause the death of the child, although long enough to have caused the removal of the soft parts.

A third source of this intra-uterine separation, mentioned by Mr. Gatty, is illustrated in a case related by Dr. Edward Martin, of Jena, in which it was obviously the result of an accident to the mother, inducing, as the author supposed, compound fracture of the ovum. In this case the separated portion came away with the placenta.

The author now comes to the consideration of the manner in which these constricting bands act to produce amputation; and here he remarks some most striking differences between their action and that of ligatures artificially applied after birth to any part of the body. When such an application is made use of by the surgeon for the removal of various kinds of tumours, separation is produced by the stoppage of the circulation in the part from the tightness of the ligature; this causes its death and disorganisation, ulceration of the living tissues nearest the dead mass follows, commencing at the circumference and extending towards the centre, the skin in this instance being the first to give way. On the other hand, in several of the cases of intra-uterine amputation the author has related, it is expressly stated that the skin was the last part, or nearly so, affected; absorption of all the subcutaneous tissues down to the bone being produced before it showed the least symptom of compression, beyond following the indentation of the limb. He cannot, unfortunately, find one case on record in which the constriction has extended into the bones without the amputation being complete, nor is there one where the integuments have begun to ulcerate; so that it is impossible to say which of these two hold out the longest against the constricting force. Moreover, it is evident that the separation is not the result of gangrene, for in all those cases where the separated parts have been found they have always seemed healthy, not having suffered any discolouration or disorganisation, and at the point of division being either partially or entirely

healed over; though this appearance of being healed, he thinks, is more probably attributable to the fact, that the skin did not ulcerate or separate until even the bone itself had been divided, rather than to any active process of repair having taken place in the amputated extremity.

The effects produced on the portion of limb below the seat of constriction, in cases of partial amputation, have been but little noticed, and the author is not able to add to our information in any material degree. He, however, extends his inquiries beyond the actual nourishment of the limb, to the character and frequency of diseases to which it may be subject. In illustration, he mentions one case, in which the portion of limb below the stricture was subject to repeated attacks of erysipelas, which did not affect the other limbs. He therefore concludes that it possessed a less amount of vital resistance.

30. *Infantile Syphilis*—meets with a minute investigation in all its bearings, by Mr. Acton in his valuable work before noticed. Among the many interesting questions which he enters upon, is, whether, in the case of a woman already pregnant of a healthy child, the germ can be infected through the maternal blood, supposing her to become the subject of syphilis?—he decides that it can. He also decides that the father can be the cause of hereditary syphilis in the child, without infecting the mother.

Another question of grave importance, is this: can the nurse infect the child? To this the author replies positively in the negative.

That a woman who is pregnant of an infected fœtus may be contaminated through it, without herself having been the subject of primary symptoms, is held by Ricord. The author is doubtful on this point.

The influence of an infected infant on the wetnurse, is also an important question, as actions at law have been framed on such a supposition. Mr. Acton strongly denies the possibility of infection thus taking place, and insists the more on the matter, that cases have recently appeared in the medical periodicals in which such a mode of infection was presumed.

The treatment of infantile syphilis is briefly discussed. He never gives mercury internally, and finds no benefit from the iodide of potassium. He depends upon a flannel roller on which mercurial ointment is smeared.\*

31. *Chronic Hydrocephalus*.—An essay which exhibits great research has been published by Dr. BATTERSBY,† in which he investigates the state of the skull and brain in congenital hydrocephalus. We recommend it to our readers as containing an excellent epitome of what is known on the subject.

—Two cases may be mentioned which exhibit the benefit of the iodide of potassium in the treatment of chronic hydrocephalus.

The first which we shall notice is reported by Dr. Guérond.‡ The child was a coloured infant six weeks old, a third larger than natural, and the sutures were all widely patulous; the fissure commencing at the root of the nose, and extending up the medium line of the os frontis to the anterior fontanelle, being an inch across. The fontanelle itself was capacious enough for three fingers. The coronal and sagittal sutures were also widely extended. The scalp covering these broad fissures was puffed and elastic to the touch, and indicated the presence of much fluid beneath. Dilatation of the pupils and strabismus, together with subsultus tendinum, and sudden screaming and tossing of the arms upwards, plainly denoting the nature of the little patient's affection. Also, the bowels were costive, and vomiting frequently occurred. This congeries of symptoms, so clearly evincing a case of hydrocephalus, determined the author at once to try the efficacy of the hydriodate of potass. He accordingly ordered an ointment consisting of 25 grs. hyd. of potass to the ounce of lard, to be well rubbed over the whole head, twice in twenty-four hours. This to be gradually increased up to 40 grs. to the ounce. At the same time, a solution to be made by dissolving 20 grs. of the hydriodate in ℥j of rain water, and of this 10 drops to be given morning and evening. This treatment was continued up to the 3d

\* Op. cit., p. 660.

† Edinburgh Medical and Surgical Journal, Jan. 1861.

‡ American Journal of the Medical Sciences, 1851.



of March, and, no amelioration of the disease occurring, blisters were now ordered to be applied to the cranium, first on one entire half, and then on the other, and so alternating that one side of the head or the other was always under the influence of the epispastic. A couple of grains of the blue mass was likewise ordered twice daily, which kept the bowels in a tolerably active state. Very shortly after, symptoms of anasarca supervening, the unguent was directed to be rubbed over the thorax and abdomen. And now appeared the crisis of the case, *a vesicular eruption broke forth over the entire body*, the vesicles bursting and discharging pure lymph. From this critical discharge, the convalescence of the patient commenced, and the remedies being still continued, all the alarming symptoms gradually disappeared. About the middle of July, all remedial measures were discontinued, the case being considered as cured. The child was brought to town and examined two weeks since, and although there was still some obliquity of vision, the sutures were almost all filled up with ossific matter, except the broad space between the two portions of the os frontis, and also the triangular space of the anterior fontanelle, but in both of these there is a hard, bony deposit on the dura mater below, and the cavity will soon be filled up, although not to a level with the superficies of the cranium. The forehead will always be marked with a deep sulcus in the middle. But the absence of all serous effusion from the head, or other parts of the system, and all symptoms denoting pressure on the brain, shows that the hydrocephalic affection has been entirely removed, and the cure of the little patient made certain.

The second case by Mr. Rowland Hoskins is more satisfactory in reference to the direct effect of the medicine. It is as follows:—

A child, two years of age, was brought to Mr. Hoskins on the 14th of October, 1850, suffering from chronic hydrocephalus. The history was as follows:—For the first three months after birth she had frequent convulsive fits, but after that period they became less frequent; she appeared to thrive, learned to speak a few words and to walk, and appeared to be in good health. When eighteen months old she had a fall and struck the back of her head. From that time she lost the power of speaking and walking; her head began to enlarge, and the child became worse and worse, and more and more idiotic in her appearance and manners. When he first saw her she was lying with the eyes half closed, apparently sleeping, but constantly grating the teeth and rolling the head. The mother informed him that this was her usual state, but that twice or three times a day she would scream violently for an hour and a half or two hours, and then relapse into torpor. She never gave any signs of consciousness, merely swallowing food when it was placed in her mouth. Convulsive fits occurred about three times in a week. The head measured seventeen inches in circumference; there were two large prominences at the posterior part, one also over each ear; the forehead was very prominent; the pupils were dilated, and the movements of the iris very sluggish; the skin was cool and dry; pulse 160; tongue dry and whitish; bowels much confined. The mother had taken the child, for the last two months, to a large hospital, but was obliged to relinquish her attendance there, as motion was very distressing to the patient.

As this case had been under the care of a physician whose name was a sufficient guarantee that the usual remedies had had a judicious trial, Mr. Hoskins determined to try a new mode of treatment. He therefore ordered half a grain of iodide of potassium to be given every four hours, and five grains of compound scammony powder at night, when the bowels required it. (The latter was only given twice—on the first and fourth nights.)

For the first four days the only apparent effect was a gradual diminution of frequency in the pulse, which sunk to 140, but after that time there was evident and progressive improvement. The unnatural prominences on the head began to diminish; the screaming fits became shorter and less frequent, as did the convulsions; the rolling of the head was no longer constant; the irides became more active. After a fortnight's continuance of the treatment, the head measured fifteen inches, the child slept quietly, and when awake recognized her parents. She got quite well under a continuance of the same system.

# IV.

## REPORT ON THE RECENT PROGRESS OF FORENSIC MEDICINE.

BY C. LOCKHART ROBERTSON, M. D.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH:  
ASSISTANT-PHYSICIAN TO THE MILITARY LUNATIC HOSPITAL AT YARMOUTH.

### § I.—Toxicology.

#### I. IRRITANT POISONS.

##### a. *Metallic Irritant Poisons.*

1. *Poisoning by Arsenious Acid.*—Mr. CORNISH,\* of the Nottingham Dispensary, has recorded a remarkable case of Poisoning by Arsenic, in which two ounces are said to have been taken by two persons, both of whom recovered. The particulars are as follows:—

A respectable young man fell in love with a girl of abandoned character, the subject of this case, which occasioned much unpleasantness between him and his relatives. On Friday, November 18th, 1848, he had quarrelled with his friends, and, to "drown sorrow," he drank freely of ale and spirits in the course of the day. In the afternoon he went to the girl's lodgings, drank tea with her, and, it may be supposed, persuaded her to join him in his mad scheme. They walked out together in the evening, called at a druggist's shop, and requested to be supplied with an ounce of prussic acid, for the purpose of poisoning a dog. The druggist was intimately acquainted with the young man, but refused to sell the article for the purpose mentioned; after some hesitation, however, he sold them two ounces of arsenic for sixpence. They returned home about 9 o'clock, ate a hearty supper, composed of crab, shrimps, and bread-and-butter, and drank ale and rum. The arsenic was mixed by the girl, with flour, into the form of a cake, which was then baked in a frying-pan, and the whole of it eaten between them. Soon after 11 o'clock they were found lying on the bed, apparently insensible. The man, on being roused, began to be sick, and confessed that he had taken arsenic. His friends were informed of the circumstance, and they immediately fetched Mr. Higginbottom, who took charge of him, and had him conveyed to the house of his parents. The girl was not seen until half-past 1 A.M. on Saturday. She had then vomited twice or three times. The vomited matter appeared to consist of lumps of cake, fish, &c., in a semi-digested state. She complained of a severe burning pain in the throat, stomach, and bowels. She appeared wild and excited, and, from her manner, had evidently been drinking freely.

An emetic of sulphate of zinc was given, the fauces were tickled, and a quantity of albumen and water administered, which soon produced copious vomiting. The stomach-pump was used, and, the hydrated oxide of iron not being at hand, large doses of the common sesquioxide were administered with white of eggs, mucilaginous drinks, &c.

The patient is stated to have convalesced under the usual treatment, and to have been discharged from the Dispensary on the 1st of December.

\* Lancet, Jan. 13, 1849.

Mr. Cornish subjoins to the history of the case the following observations:—

"The above case is one of great interest to the toxicologist in several respects. On looking over the medical periodicals of the last ten years, I do not find a single case recorded in which recovery has taken place after the swallowing of an ounce of arsenic. Dr. Christison, in his 'Treatise on Poisons,' quotes a case from the 'London Medical Repository,' where 'a person swallowed an ounce of the oxide of arsenic, and retained it half an hour in his stomach. But he took it along with a large quantity of milk, the coagulation of which would prevent its diffusion over the surface of the stomach. The patient was free from complaint in less than a day.'

"The recovery in the case now under consideration must be attributed to the fact of the patient eating a hearty supper just before, and to the manner in which the arsenic was taken—i. e., mixed with flour into a cake. The gluten of the wheat would entangle the particles of arsenic, and retard its usual action on the stomach. The patient was not seen for more than two hours after eating the cake; she had not then vomited more than twice or thrice, but undoubtedly the greater portion of the arsenic must have been ejected in these vomitings. With regard to the treatment adopted in this case, I must explain that the sesquioxide of iron was not given with a view to its chemical action on the arsenic, but merely as a mechanical means of entangling any particles that might have remained in the stomach. With the same object in view, large quantities of albumen mixed with water were given, and the vomiting was kept up, at intervals of a few minutes, for nearly three hours. It is remarkable, in the subsequent progress of the case, that two of the most characteristic symptoms of arsenical poisoning were entirely absent—i. e., vomiting and purging; thus proving that only a minute portion of the arsenic could have remained in the stomach."

2. *Poisoning by Arsenic. Magnesia an Antidote.*—The following case of Poisoning by Arsenic, successfully treated with calcined magnesia, is quoted in the "Medical Gazette," from the "American Journal of Medical Sciences."

Peter Galpin, a labourer, aged 27, a powerful and robust young man of intemperate habits, attempted suicide by taking arsenic. The quantity taken, as nearly as could be determined, was not far from a scruple. When the narrator was first apprised of the fact, two hours had elapsed from the time it was taken. Thirty grains of sulphate of zinc were quickly given, in two doses. When the author arrived, he had vomited freely twice, but without any relief. The family had given him copious draughts of a weak infusion of tobacco, which produced no other effect than to increase his sufferings, which at this time were extreme. His pulse was 130 per minute, small and wiry. He complained of great constriction and dryness of the fauces, but chiefly of a most agonising pain and burning in the stomach; it seeming, as he expressed it, "as if it were filled with burning coals." As nearly three hours had now elapsed since the poison had entered the stomach, any further effort to evacuate it was considered futile. The author therefore determined to give the calcined magnesia a fair trial, and accordingly put it up in drachm doses, to be given every hour, mixed in milk-and-water. The pulse was 150 per minute; the constriction and dryness of the fauces extreme; the whole surface bedewed with perspiration; the pain and burning sensation in the stomach seemed augmented to the highest possible degree, whilst the right hand was entirely paralysed—in short, everything betokened a speedy dissolution. Visiting him, however, the next morning, instead of finding him dead, he found him very quietly dozing in an easy chair. The lady stated that, after taking the first dose of magnesia, he said he felt much relieved, and, before the time for the second dose, he had fallen into a dose. She stated that each successive dose had produced the most surprising and marked mitigation of every symptom, and that long before morning he was entirely freed from suffering.

[In Professor Guy's Report on Forensic Medicine, "Half-Yearly Abstract of the Medical Sciences," Vol. VII., § I., No. 7, two cases of poisoning by arsenic, in which hydrated magnesia was successfully administered, are quoted from the "Journal de Chimie Médicale."]

4. *Cases of Poisoning by Arsenic, in which the Symptoms were unusually delayed.*—In the "Lancet" of Nov. 4, 1848, two remarkable cases of this kind are related by Messrs. Fox and Clegg. We subjoin the history of these cases as detailed by those gentlemen:—

CASE I (as related by Mr. Fox).—Charles T——, æt. 21 years, a strong, healthy man, a miller, took by mistake a teaspoonful of arsenious acid, thinking it to be flour.

From the evidence given before the coroner, it appeared that white arsenic had been used for rats on the previous day, and about a teaspoonful, more or less, which was left, was put into a teacup, and placed on a shelf from which deceased used to take a cup to mix his flour in every morning. The servant-maid would sometimes place the flour ready on the shelf for the deceased, that he might not forget to take it; and on this occasion she had unfortunately, in a hurry, placed the cup containing the arsenic on the shelf, intending, on the first leisure moment, to remove it to a safer place.

George Collins deposed to having seen deceased in perfect health at six o'clock A. M., Feb. 25, 1847: "Deceased was at the pump, stirring what Collins considered to be flour, in a teacup. The cup was half full; and after he had said it did not mix very well, drank the contents of the cup. After being at work about twenty minutes or half an hour, deceased said, 'That flour seemed rather rough; I'll go and ask the maid what it was.' Deceased returned and said, 'It was arsenic master brought out of the mill.' He did not seem at all alarmed, but was advised to drink plenty of salt and water. He did so, but was not sick, and thought there was nothing the matter. He was persuaded to go to the doctor immediately."

Deceased arrived at my house shortly after eight, A. M., after walking slowly a distance of two miles. He very coolly said he wished for an emetic, and did not say, until asked, what he wanted it for. His reply was, "They tell me I have taken poison, but there is nothing the matter; I am not ill, but I suppose I had better take an emetic."

Deceased complained of no sickness, faintness, burning or pricking sensation at the throat, nor of any symptom that would lead one to suppose that poison had been taken, and two hours previously too! I gave him an emetic of sulphate of zinc, which acted in a few minutes, and brought up some white powder tinged with bile. I then gave him large draughts of milk and lime-water, which were quickly ejected. After a short interval, the stomach became quiet, and deceased expressed himself as quite well, and said he should return to his work; but he consented, on my advice, to remain at hand for a few hours, and, in the meantime, to drink plentifully of lime-water. I desired him to send to me on feeling himself at all ill, or if sickness should come on.

I felt very sceptical as to his having taken arsenic; and, unfortunately, I was unable to decide the point, for, during my absence for a moment, my surgery boy had thrown away the contents of the basin which deceased had vomited. Hearing nothing of deceased for three hours after this time, I felt satisfied that arsenic had not been taken, and believed the man had gone home.

At twelve o'clock I was sent for, as diarrhoea had suddenly come on. He had vomited two or three times yellowish-coloured fluid. On my arrival, I found my patient sitting by the fire in a drowsy state, but easily aroused; countenance sunken and livid; pulse rapid, and extremely feeble; surface of the body cold, and watery stools of a greenish hue passing involuntarily. He answered questions rationally, and complained of no pain, no tenderness of the abdomen, no tenesmus, or any of the usual irritative symptoms of poisoning by arsenic. I ordered him instantly to a warm bed, and to have hot water to the feet, &c., and a little brandy and water. He seemed to rally for a short time, and desired to get out of bed. He was allowed to do so, contrary to my directions, and then complained of dimness of sight, lay down on the bed, and in a few minutes expired.

The coroner did not think himself warranted in ordering a post-mortem examination, as there were no suspicious circumstances in the case; I was, therefore, unable to obtain an inspection post-mortem. The remarkable features

in the case are—the length of time before any symptom of poisoning occurred, and the total absence of the usual symptoms of poisoning by arsenic. May not the fact of the arsenic being mixed with flour in some degree account for the former circumstance?

This case strongly resembles one related by M. Laborde, mentioned by Dr. Todd Thompson, and related also by Dr. Taylor, in his excellent work on "Medical Jurisprudence."—

"A young woman swallowed a considerable number of small fragments of arsenious acid. As she was seen swallowing the poison, a physician was sent for immediately; he forced her to drink, which caused vomiting without much uneasiness. In two hours afterwards, her countenance expressed much anxiety, but she was tranquil. She gradually became drowsy, then remained calm for four or five hours; and finally, on trying to sit up, complained of pain in her stomach, and expired without a groan."

CASE II (as related by M. CLEGG).—

On Sunday, Aug. 27th, at five o'clock in the afternoon, a woman requested me to visit her niece, who had, about noon, taken a teaspoonful of white arsenic. I attended, and found a heavy, stupid-looking girl sitting in her chair, more asleep than awake. On rousing her, she reeled about the room as if intoxicated; indeed, I suspected poisoning by some narcotic. But she acknowledged having swallowed "white mercury;" and a paper packet was brought to me, from which she had taken the poison, containing about ten grains of a white powder. By means of my pocket-lens, I immediately recognised this powder to be arsenious acid. She vomited once after dinner, but there were no further symptoms until half an hour before she died—that is, at noon the following day.

She had no sickness, no pain, no acrid eructations, no burning taste in the mouth; her face was very pale, and she was faint and giddy. The sulphate of zinc, with mucilaginous drinks, soon produced profuse vomiting, and this was kept up for half an hour. Then another medical man arrived with a jar of the hydrated peroxide of iron; and having some pressing professional engagements, I left her with my friend, who administered large doses of the antidote.

At nine o'clock at night we visited her together. She had experienced no pain, no unpleasant symptom whatever; she was disposed to sleep quietly. At ten o'clock the next morning, the patient's aunt came to say that her niece was quite well—"might she go a-gleaning?" Up to half-past eleven o'clock, she continued more than ordinarily cheerful, and was busied in preparing the family dinner. At half-past eleven o'clock, she suddenly complained of an excruciating pain in the body, with excessive prostration of strength. She went to her bedroom to lie down, and at twelve o'clock was found dead, kneeling by the bed-side. Thus she died in about eighteen hours after taking the poison, and within half an hour after the first decided symptom of poisoning was manifested.

*Autopsy, forty-eight hours afterwards.*—The stomach contained half a pint of a thin, dirty-green fluid; the mucous coat was much corrugated, having a fungoid appearance, very soft, and so fragile that a touch of the finger tore it away. Three or four large reddish-brown patches were observed, and these extended into the intestine considerably beyond the duodenum. The peritoneal coats of the stomach and bowels were not inflamed; the lungs and the heart were healthy; the head was not inspected.

It only remains for me to add that the matter vomited, and the fluids in the stomach and intestines, contained abundant evidence of the presence of arsenic. Minute fragments of a white powder were seen adhering to the mucous coat of the stomach, and these, by the ordinary tests, were proved most satisfactorily to be arsenious acid.

*Explanation (?)*—The lower classes in Lincolnshire are very much addicted to the use of opium and laudanum. I have known women with three shillings a week from the parish spend half-a crown in the purchase of opium. I have reason to believe that this girl was an opium-eater. Did one poison mask the evidences of the other? Did the opium suppress the horrible agonies of arse-

nical poisoning, thus modifying the symptoms, whilst it had no power to interrupt the effects of the deadly drug?

5. *The Morbid Anatomy of Arsenical Poisoning.*—Professor Geoghegan (R. C. S. I.) has\* furnished the results of his experience in the morbid anatomy of arsenical poisoning.

Arsenious acid is of special importance, both from its frequent employment, and as being well fitted to illustrate the action of irritant (non-corrosive) poisons at large. The present inquiry is chiefly confined to the appearances in the *stomach*, which are the most striking and varied, and which Dr. Geoghegan observes, may, with one exception, be as properly referred to a remote as to a local action. In the examination of sixteen fatal cases, all (save one, in which the parts were altered by maceration) exhibited (singly or combined) either vascular injection, ecchymosis, or coloration. The mucous membrane was engaged in 15, the submucous also in 5, the peritoneal in 2, and the venous plexus of the splenic end in one. The ramiform vascularity he has found confined to the *submucous* coat. Of the vascular injections which implicate the mucous membrane, the punctiform or closely stellate he has found by much the most common, and the striated the *least*. Diffuse redness, which is the alteration he has most frequently observed, Dr. Geoghegan views as the result of translation or imbibition, influencing a previously formed vascular injection. It may exist either alone or otherwise. Ecchymosis presented itself, either, 1, as blackish, scarcely elevated, patches or streaks of variable size and figure, readily removable by the nail, and when thus treated, leaving behind the ordinary appearances of erosion; or 2, *petechial* florid-red blotches of small size and trivial thickness. Dr. Geoghegan does not accede to the view that either of these is produced by the lodgment of particles of undissolved arsenic, but considers them to result either from the general stimulation of the mucous surface (as occurs in the case of fluid poisons) or as the consequence of the remote action of arsenic. The local contact and adhesion of the latter sometimes give rise to great and fungous thickening (confined to the mucous membrane), which, in one instance, was accompanied by a copious effusion of tough coriaceous fibrin. Erosion of the mucous membrane (confined to the latter) has been met with by the author, under the form either of circular patches with undefined edge and without surrounding coloration or hardening, or of long sinuous streaks. Dr. Geoghegan considers erosion as the result of the removal of the mucous coat where occupied by the blackish ecchymosis, in which parts the membrane is generally much softened, although elsewhere of natural consistence.

He has never met with true *ulceration of the stomach* in arsenical poisoning, although he has seen it invade the buccal mucous membrane. Softening of the mucous coat he views as pseudo-morbid, as also extensive blackish-brown staining, which resulted in one case from the action of the gastric acid on the blood of a violently irritated mucous surface. Attention is drawn to the importance of a careful inspection of the stomachic and intestinal contents, which, in many instances, the author has found to hold important and unexpected relations to the normal evidence, and, in one case, to have afforded the means of identifying the body, which could not be otherwise effected with the necessary precision. The most usual combination of characters in the stomachic contents, he has found to be, either the thick, turbid, and bloody, or the copious, bilious, and viscid. In inspections after variable periods of inhumation, changes occur (the result of chemical action) which are worthy of notice. The author has observed the deposition of crystalline, gritty, and whitish grains on and in the mucous surface, which he has found to consist of ammonio-phosphate of magnesia; and also a white granular matter on the peritoneal coat of the concave surface of the liver (supposed by the inspector to have been arsenic deposited by transudation), which proved to be sulphate of lime. In some instances, also, the arsenical compound is modified by the nature of the stomachic contents. The influence of arsenic on the process of decomposition is next considered, and referred rather to a *catalytic* or disposing influence, than to chemical action.

\* Dublin Medical Press.

This view is supported by the author's researches, in the course of which he has found an organ comparatively well preserved, from the tissue of which the poison had been completely discharged, while in another organ of the same individual, in a less complete state of preservation, it was readily detected. Again, he has observed an instance of arsenical poisoning in which, although the entire body ran rapidly into putrefaction under adverse physical conditions, absorbed arsenic was easily discovered. Dr. Geoghegan has satisfied himself, by original observations, that absorbed arsenic enters into combination with the structure of the liver, but assigns various reasons which lead him to reject the hypothesis of Liebig, namely, that chemical union with the tissues is the cause of the poisonous agency of arsenic and other mineral poisons. On the contrary, he views such union as an admirable provision for the allocation of the poison in situations in which it is productive of the least disturbance to the vital functions, and for its speedy separation from the blood. Dr. Geoghegan has witnessed, on the one hand, preservation of the stomach and intestines, the body decaying as usual, and in others, precisely the opposite condition. In the latter case he has found that the rapidity of decomposition is not equal throughout the entire intestinal tract. The author describes a peculiar form of decay of the alimentary canal in arsenical poisoning, not hitherto noticed; this he designates *rancid* putrefaction. It is characterised by a peculiar odour like that of fatty matter altered by exposure to air, and by a persistent and strongly-marked acid reaction, which, in one instance, continued undiminished after a lapse of four years.

In some cases, during the slow decay of the partially dried organs of persons poisoned by arsenic, the alliaceous odour was distinctly perceptible. It was singular that such organs, kept in closed vessels, were greedily attacked by small insects, which maintained a vigorous existence, although, moreover, immersed in an atmosphere impregnated with arseniuretted hydrogen, perhaps (with the exception of the cyanide of cadocyl) the deadliest of the arsenical compounds.

6. *Fatal Poisoning from Bromine*, by Dr. SNELL.\*—This case is considered by the narrator to be the only instance on record in which the poisonous effects of bromine have been witnessed in the human subject.

Dr. SNELL was called to see Mr. ———, Tuesday morning, May 28, 1850, about half-past six o'clock. He was informed by the friends that half an hour previous the patient had swallowed bromine, with suicidal design. At this time the patient was complaining of incessant pain, which he described to be of a burning character; breathing slightly accelerated, short, and thoracic; pulse somewhat frequent, small, and quick; slight borborygmus and eructations from the stomach; several times during his illness partial tremors of his hands and arms were observed, but no decided convulsive movements were manifested, and the tremors were, doubtless, the result of excitement and fearful apprehension upon a naturally nervous temperament. An ounce bottle, with its tin case, was found upon the walk below his bed-room window, and he confessed having taken the whole, but a few drops spilled upon his hands and clothing in the act of swallowing. It was taken undiluted, directly from the mouth of the phial, hence the violent inflammation of the lips, tongue, mouth, œsophagus, &c. Another fact not to be omitted in the detail of the case is this, the poison was taken into an empty stomach; this circumstance alone, doubtless, caused a greater intensity, as well as an earlier commencement of the symptoms of gastritis. At the expiration of two hours and a-half from the time the fatal dose was taken, the symptoms began to indicate some degree of prostration, surface cold and clammy, breathing short and laborious, with a prolonged expiration, attended with considerable mucous throat-rattle. The mucous secretion of the Schneiderian membrane was copiously discharged, and saliva flowed very freely; pulse frequent, quick, and hard; no thirst, retching, or vomiting; pain more intense. In three hours and a half pulse more frequent and feeble; breathing thoracic, difficult, and slightly convulsive; mucous throat-rattle more extensive,

\* New York Journal of Medicine.

and deglutition, which has been growing more and more difficult, is now found to be impracticable. The patient is becoming quite restless, throwing his hands and arms frequently into different positions. Cold perspiration breaks out, and the skin in many parts appears tinged slightly blue, and shrunk; countenance haggard, and bluish pale; features pinched; eyes sunken, pupils natural, conjunctiva has lost its lustre, and appears corrugated; no abatement of pain; frequent but ineffectual desire to stool; restlessness and other symptoms, indicative of extreme prostration and impending dissolution, increase rapidly. In four hours, pulse small, frequent, and almost imperceptible; no retching, vomiting, or thirst; patient is unable to protrude his tongue; cold perspiration increases; constant restlessness; pain moves lower down. Four hours and a half, no pulse; extremities cold; respiration decidedly convulsive, with the prolonged expiration peculiar to dying persons. The above symptoms continued to grow more intense till death relieved the sufferer, seven hours and a half after the poison was taken.

*Autopsy sixteen hours after death.*—The head was not examined. Lower portion of the lungs congested, and a limited number of tubercles in the upper lobe of both sides. There was considerable serous effusion in the pericardium, but nothing more of particular importance was found respecting the viscera of the chest. The mucous surface of the œsophagus was not examined, but from the symptoms evinced during the illness of the subject, it is to be inferred that the mucous membrane of the entire œsophageal passage was in a state of high inflammation, and perhaps partial disorganization. The peritoneum was tinged reddish-yellow throughout the upper two-thirds, and highly injected in the parts lining the stomach, duodenum and liver. The lesser omentum, great omentum, and transverse meso-colon, were all deeply tinged with bromine, and injected to a considerable extent. On the anterior surface of the stomach, near the middle of the lesser curvature, is a large ecchymosed spot, two inches in diameter, the centre point of which is softened and gelatine-formed; this may be owing to *post-mortem* changes. The whole anterior surface is very much injected, especially about the lesser curvature. On the posterior portion are several ecchymosed spots, surrounded by red borders. The internal surface was covered with a thick layer like tanned leather, and peeled off readily. The mucous membrane was softened, and intensely injected. The lower part of the stomach is hard and tanned. The same appearances extended to the duodenum.

The treatment pursued was experimental, and consisted of emetics, followed by starch, white of eggs, and ammonia.

6. *Poisonous effects of Zinc.*—We extract the following from the "Monthly Journal of Medical Science," July 1850:—

It is now some time since it was proposed by M. LECLAIRE to use oxide of zinc as a substitute for white lead, with a view to avoiding the dangerous effects of the latter on the workmen. There could be little doubt that, in point of salubrity, oxide of zinc was an improvement on carbonate of lead; but it was still a matter worth determining to what extent the oxide of zinc was itself free from objection, and whether or not some precautions were necessary regarding its use.

M. FLANDIN endeavoured to determine this experimentally. He rubbed animals over with ointments of oxide of zinc, of carbonate of lead, and sulphate of lead; and whilst he found that the last two always produced poisonous effects, he observed that the animals rubbed over with the oxide of zinc continued to enjoy their usual health. The following facts, however, show that the innocuousness of oxide of zinc must not be admitted so decidedly as Flandin supposes.

I. *Poisoning by Oxide of Zinc, used as a substitute for White Lead.* By Dr. BOUVIER, of the Hôpital Beaujon.—A man, aged 42, a labourer, entered on 19th April with all the symptoms of metallic colic. He had been employed for the fifteen previous days at a white colour manufactory, along with five other workmen, in barrelling oxide of zinc, and in repairing casks which had contained that substance, during which operation they were exposed to an atmosphere loaded with the powder of the oxide. From the commencement of their work, he and his comrades experienced colic and a repugnance to food, and the wine



and brandy which they took to excite their appetite were disgusting to them, and did not remove the clammy taste which they had constantly in their mouths. This man could not continue long at work. After ten days of this employment he was seized with vomiting, and severe colic, accompanied by constipation, which persisted and increased in intensity so much, that he rolled on the floor in agony. On the day of admission he continued to vomit, and to suffer severe abdominal pain. The vomited matters were bilious, and he rejected all his food almost immediately after swallowing it; he had had no stool for five days; the belly otherwise was natural, the tongue whitish; he had no appetite, was free from fever, but was sleepless. The next day, 20th April, the bowels were opened by two ounces of sulphate of magnesia, and the painter's purgative clyster, as used in La Charité—[this consists of twelve ounces of wine, with six of oil.] The free evacuation of the bowels, and the administration of two and a-half grains of opium were followed by cessation of vomiting and diminution of the pain. From this time to 26th April, after having taken from six to twelve grains of gamboge daily, and using frequent clysters and medicated baths, he became convalescent, and was dismissed cured on 4th May.

From the whole history of the case, there appeared to be no doubt that this man suffered from a genuine zinc colic. To ascertain that it was really oxide of zinc which had caused the illness, M. Bouvier collected, by washing the surface of his body, the metallic particles which adhered to it, and found them to consist of oxide of zinc. We are not entitled from this to say, that the oxide of zinc is as noxious as white lead; but it shows, at least, that some precautions require to be taken by those who work with it, in order to preserve their health.\*

11. *Zinc poisoning observed in the Workmen employed in twisting Galvanised Wire.* By MM. LANDOUZY and MAUMENE, of Rheims.—The iron wire employed for securing the corks of champagne is sent in bundles of one to ten kilogrammes to workmen called *tordeurs*, who, by a dexterous manœuvre, cut and twist from ten to twenty threads of wire at a time. These wires are then made up in packets of one kilogramme, and after being beaten with a bit of wood to make them even, are packed in bundles. Although this sort of work had been followed by the same workmen from eight to fifteen years under very bad hygienic circumstances as regards ventilation, they never had experienced any evil effects from it till the beginning of January 1850, when the so-called galvanised wire (which is iron wire covered with a layer of zinc) was substituted for the common iron wire; and soon after, the workmen began to complain of the taste as of a sweetish powder in the throat, an incessant tendency to cough and spit, shiverings, and general malaise. The whole of the people employed in this branch of industry—two youths, two women, and two men—were affected by symptoms which were referable to zinc. Four had symptoms of general depression, with sore throat, swelling and ulceration of the tonsils, inflammation of the palate, white pellicles on the gums, salivation, fetid breath, colic, and diarrhoea. In one, the colic and diarrhoea were the only symptoms observed; in another, the colic was accompanied by nausea, tenesmus, and obstinate constipation. The wires with which they worked had been made hurriedly and carelessly, and were covered with a dusty powder, which escaped abundantly during the twisting, and especially the beating of the wires. This powder consisted of zinc, oxide and carbonate of zinc, alloy of zinc and iron, iron, and oxide of iron. It contained no trace of lead.

These symptoms seem to have subsided readily, without treatment, on abandoning the occupation. With one exception, all the work-people returned to their work in from three to six days.

That the symptoms were due to the exposure to the dust appears from the circumstance that in fifteen days more, the same work-people, in the same hygienic circumstances, resumed the same work, with the same galvanised iron but free from all dust, and none of these phenomena manifested themselves which were formerly observed. (*Gaz. Méd. de Paris*, 1st June, 1850.)

7. *Poisoning by Chloride of Zinc.*—Dr. Stratton, of Montreal, has reported two cases.

1. A female servant drank a mouthful out of a bottle of a weak solution of chloride of zinc, thinking it was whisky. She experienced pain and nausea, and after drinking milk, vomited freely. She had anorexia for some weeks, but did not otherwise suffer.

2. A man, *ætat.* 54, under a similar impression, drank about a wine-glassful of a dense solution of chloride of zinc, containing, as prepared, 400 grains of the salt. He instantly felt a burning in the œsophagus, nausea, and sense of coldness. He vomited freely in a few minutes. He was seen about 20 minutes after taking the poison. He complained of severe burning in the stomach, vomiting, legs drawn up, cold sweats; P. 45, small and weak. Dr. S. instantly made a solution of brown soap and gave it; he vomited every two or three minutes, drinking soapsuds in the intervals. He now felt easier, and even able to go home in a cab. After getting home, he was ordered leeches to epigastrium, and olive oil every hour. Next day, he vomited some membranous substance; had a blister to epigastrium, and continued the oil: under this he improved.

8. *Tinct. Ferri Muriatis. Accidental Poisoning.*—Sir James Murray\* was summoned to a gentleman who had drank 3 ounces, by weight, of undiluted tinct. ferri muriatis. Alarm being given, ʒ of sulphate of zinc was exhibited as an emetic, but did not act. No drinks were given. When Sir James arrived, the poison had been taken two hours. He found the patient looking about in agony, tongue swelled and protruded, with ropy mucus from the mouth. Respiration noisy and stertorous, and suffocation seemed impending. During this time, his hand was riveted to the region of the stomach, as the principal seat of pain; the palate and interior of the mouth were burned, and presented a parboiled appearance.

Under these circumstances, the first indication of treatment was, to neutralize the *muriatic acid* and to precipitate the iron. Upon instant search, he found a dozen soda powders belonging to a lady then on a visit. Rejecting the blue or tartaric acid papers, he dissolved the twelve alkaline or soda powders in a jug of tepid water. This he passed down the throat from a large spoon as fast as possible, until abundant effervescence commenced in the stomach, like a fermenting vat, and carried up its foaming contents, mixed with carbonate of iron, slimy mucus, and skinny membranes. The alkaline solution was given as long as any acid continued to be discharged. The copious effervescence served the purpose of bringing up the contents of the stomach with the drinks and diluents which were abundantly supplied at intervals. When the acid tincture was thus decomposed, and the vomiting ceased, an emulsion, composed of olive oil and white of egg, blended with sugar and water, was then administered, and three pints of similar emulsion also thrown up by *enema*. Soon after he swallowed a *castor-oil mixture*, also blended with white of egg. During the first two hours, the pulse remained very feeble, the skin being cold and clammy, the face swollen and livid; but now, the pulse beat quicker and stronger, reaction was setting in, the breathing, particularly the inspirations, became oppressive, and the sense of burning and constriction in the throat extremely severe. The unhappy patient was gasping in the greatest agony, and the noise of breathing resembled that of a bad case of croup. Finding the pulse still rising, and the pain more acute in the stomach and throat, Sir James opened a vein in the arm. The blood was remarkably *black*, and so *thick* and viscid, that it would not flow until he cut a much larger orifice in another vein, when a great quantity of blood, which resembled molasses, was abstracted, relaxation ensued, slight perspiration broke out, and the bowels began to operate. The arm was then bound up, and upon examining the night-chair, nearly two quarts of *inky evacuation* had passed off, mixed with emulsions, ropy jelly, and the carbonate of iron, precipitated in the stomach by the soda.

These operations relieved the burning of the stomach; but the croupy noise

\* Dublin Journal, March 1848.

and obstruction of respiration in the throat became so much aggravated, and the inflammation seemed extending to such a degree, as seemed to require an artificial opening into the trachea. At twelve o'clock three dozen leeches were applied to the front of the neck, the castor-oil again acted, and about a pint of irony, glairy slime came away, when the pulse began to subside. By keeping the neck bleeding by aid of fomentations, the swelling of the palate diminished, and the respiration became less difficult. The stomach still remaining acutely tender, forty-eight leeches were applied to the epigastrium. At one o'clock the suffocation was less threatening, and the tossing and alarm subsided so far as to permit some moments of rest; fomentations were continued to the regions of the stomach and throat, and the breathing becoming still more easy, he had short intervals of sleep. About three o'clock some sago remained upon the stomach; the anguish of the countenance now gradually disappeared; the inflammation of the mouth, tongue, and palate, abated; and at four P. M. the Surgeon-General and Dr. O'Grady, the medical gentlemen who had been summoned from Dublin, arrived, and had only to congratulate the worthy baronet on his narrow escape.

9. *Fatal Case of Poisoning by Tartar Emetic.*—Dr. Pollock relates the following instance in the Medical Gazette, May 10, 1850, of poisoning with this drug.

In the month of January, 1849, Mr. C—, a patient of mine, had obtained from England a bottle of tartar emetic in powder, for the purpose of preparing an ointment for application to the chest, as we did not conceive that the foreign preparation was equally good for that purpose. The bottle contained two ounces, and was labelled, as usual, in English. It lay on his dressing-table, to which his courier, Antonio, had free access. This bottle was missing for some weeks, and all search for it proved unavailing till after the fatal occurrence. On the morning of Feb. 21, at 7 A. M., I was called in haste to see Antonio, who, it was stated, had poisoned himself. The following was the history of the case. At 1 A. M. he had retired to rest, having accompanied his master home from a ball half an hour previously. He was a robust, healthy Italian, aged about 30; and I ascertained that, when in waiting with the other servants at the house where the entertainment was given, he had been quite sober, and was in his usual health and in high spirits. Shortly after he retired to his room, a maid-servant in an adjoining apartment heard him vomiting violently, and on knocking at his door, he opened it, and stated that he had taken "a teaspoonful of tartar emetic as a medicine, not feeling himself well." He then went down stairs to the porter, and vomited all the way; returned to his room, still retching violently, drank freely of cold water, and lay down on his bed. An Italian physician, who was then sent for, told me that he saw him at 3 A. M. (two hours after the poison was taken); that he stated that he had taken a teaspoonful of tartar emetic, as a remedy for slight derangement of stomach, &c., and that he had had no other medicine. He was very restless and anxious, although sensible in manner; still vomited, or rather retched violently, at short intervals, and complained of heat and constriction in the throat, and pain in the epigastrium. His respiration was frequent; skin perspiring freely; bowels naturally moved twice; pulse rapid and small.

Conceiving that the danger was now over, as the poison must have been nearly all removed by the frequent vomiting, his medical attendant left him, ordering  $\mathfrak{zj}$  of the decoction of cinchona to be taken every second hour. His medicine, unfortunately, did not reach him till 6 A. M.: meanwhile he was constantly attended by his master; his restlessness became extreme; respiration rapid, then slower; the difficulty of swallowing became greater, and he sank into an insensible state about 6 A. M. (five hours after the poison was taken).

The case presented the following hopeless features, when Dr. Pollock saw him at 7 A. M.:—He lay on the bed insensible, motionless; the eyes open, the pupils closely contracted; the respiration slow, laboured, no stertor; the mouth spasmodically closed; the surface warm throughout, and dry; pulse 130, very small, and becoming much more indistinct; the impulse of the heart

scarcely perceptible; the power of swallowing had ceased; there was no vomiting; no dejections from the bowels further than those above mentioned. With the syringe and œsophagus-tube, Dr. Pollock washed out the stomach repeatedly with a weak solution of tannin, without, however, any hope of benefit. He died tranquilly, and without convulsions, at 11 A. M., exactly ten hours from the time of taking the poison.

On searching minutely through the room, Dr. Pollock could not discover any phial or vessel which contained any remains of medicine; but the missing bottle of tartar emetic was found in his box, as full as when it arrived from England, and weighing exactly two ounces. The authorities immediately removed the body, and all the matters in the room, and any further insight into the nature of the case was denied us; nor did any investigation ensue.

The following circumstances, which Dr. Pollock personally ascertained, seem to decide the fact of poisoning having occurred from tartar emetic, as well as the *quantity taken*:—On inquiry at a chemist's shop, who usually supplies foreigners with medicines, Dr. Pollock discovered that some weeks previously, the courier had come to the shop and stated to one of the assistants, that he had spilled a small portion of a medicine, of which his master had a bottle, and that he wished the chemist to replace it exactly, so that the accident might not be discovered. The assistant weighed out *one drachm* (English weight), which exactly replaced the quantity which had been removed from the bottle, and stated to us, that he had a distinct memory of the transaction. We also learned that the unfortunate man had embezzled money to some amount belonging to his master, having left unpaid for a long time, various bills for which he had received funds.

Dr. Pollock observes—"I conceive that we have here sufficient evidence that this was a case of poisoning by tartar emetic, and *that the amount taken did not exceed one drachm*. I would remark on the symptoms, that the rapid supervention of insensibility and great depression of the circulation indicate that the mineral acted directly on the nervous centre, and exerted that powerful effect on the action of the heart which we are accustomed to call its 'sedative' effect when administered in large doses in the Italian method. The absence of diarrhoea, tenesmus, &c., shows that it had probably not passed for any distance into the intestines. I cannot also help deeply regretting that a more direct chemical remedy had not been earlier administered. In such cases tannin (when it can be had, as in the present instance) is preferable to the infusions of any of the barks containing it, as invaluable time is lost in the preparation of the latter, and their administration in powder is neither so practicable nor so efficacious as that of the active principle itself. *Two hours* were lost by the chemist in the careful preparation of a decoction which arrived too late!

"In a medico-legal point of view, the case is interesting in several respects.

"1. It is the only case on record in which death ensued in so short a time from *so small a dose*. In the only one which proved fatal of Orfila's five reported cases, that result occurred in four days from two scruples. In Beck's case (a child), fifteen grains were fatal 'in a few weeks.' Three drachms were fatal in a case in England (Traill); but the exact period of death is not recorded.

"2. Taylor states that the quantity required to destroy life 'will probably depend much on whether active vomiting or purging have been excited or not,' as in such cases the poison will probably be removed; but here vomiting of a violent character occurred early, and continued for hours, and still we have the fatal issue apparently as a primary result of the poison on the brain and heart.

"3. I am not aware that any case of *suicide* by this mineral is on record: in fact, it is not vulgarly known in any country to be a poison. After much thought over the above case, my own impression is, that the unhappy man did not intend to commit suicide at all, but merely proposed to himself to excite one of the known frequent symptoms of poisoning; that, when he had been discovered to be suffering, he would state that he had robbed his master and taken poison; and that then, having received an expected forgiveness

accorded to him in commiseration, he looked forward to recovery as from a common emetic; and that thus it was a case of *poisoning by mistake*. But these speculations are concerning events hidden among the inscrutable things of eternity!"

#### *b. Vegetable Acid Irritant Poisons.*

10. *Poisoning by the introduction of Sulphuric Acid into the Rectum.*—1. M. PINJON, of Saint Etienne, has given in the "*Journ. de Méd.*" de Lyon, a detailed account of the history of a case in which a wife attempted to destroy her husband, first by poisoned wine, and then by the use of enemata containing sulphuric acid. The symptoms, as might be anticipated, were those of extreme irritation of the bowels within, and of the external parts adjacent to the anus. The case was treated without any suspicion of the cause of the patient's sufferings; nor was the real nature of the case discovered till three months had expired. About the fourteenth day from the commencement of the symptoms, a portion of intestine was passed by stool, after which the amendment, though very slow, was gradual, and a complete recovery took place. The event occurred in the end of 1844; and four years after the man (Maison-neuve) was examined by M. Pinjon, and found to enjoy good health, though with some peculiarities in the action of the bowels. The account before us does not enter into any detail of the evidence on which the charge of poisoning is founded, reference being made only to the effect produced on the straw of the chair on which he sat when the first enema was administered, and on the curtain of the bed on which he lay where the second was used.

Two cases besides are referred to, in which sulphuric acid was thrown into the rectum, and yet recovery, for the time, took place: one detailed by M. Fouquier, in the "*Gazette des Hôpitaux*," 1846, p. 575; the other in the "*Annales de Thérapeutique*," vol. ii. p. 457.

2. Dr. DEUTSCH, of Nicolai, Upper Silesia, has recorded\* the following instance of the accidental introduction, attended with symptoms of poisoning, of sulphuric acid into the rectum.

"The wife of a merchant, fourteen days after delivery, and her infant, a feeble small female, were ordered each a clyster of chamomile infusion with oil. The midwife went to a cellar for the required oil, and brought out a bottle, from which, without looking further at its contents, she poured a quantity into the chamomile infusion. It was somewhat dark, and there was a bustle in the room, so that the nurse did not perceive anything unusual on mixing the fluids. The clyster was given both to mother and child: to the former two large, to the latter two small syringefuls, in immediate succession. The woman immediately complained of severe burning pain in the fundament, and of cutting and burning in the lower belly. When light was brought, it was seen that instead of oil, sulphuric acid had been given. Dr. Deutsch, on being immediately called, found, on the mother, the skin of the buttocks, the anus, and a portion of the thighs highly reddened; punctiform abrasions, and black and red spots upon the mucous membrane of the anus, and within the verge. The woman complained of burning and splitting pains in the lower belly, especially along the course of the sacrum and at the anus, and had frequent calls to stool, with painful tenesmus; and there was evacuation of small quantities of bloody watery stools, mixed with reddish and blackish shreds, and with lumps of coagulated blood. The excitement was great, and there were frequent vomitings. On the bed and linens were seen a great many holes burned out, with reddish margins. The injected fluid was discharged, along with fecal masses, before Dr. Deutsch arrived. The child showed on the breech and genital organs the same appearances as the mother, and it cried incessantly, but there was no alvine evacuation. It appeared probable that, immediately on the contact of the injected fluid, the rectum of the child had closed so much as to prevent the ingress of any of the fluid. This supposition was supported by the appearance of the deeply-burned binder, the comparative slight-

\* Schmidt's "*Jahrbücher*," No. ii. 1849; also Monthly Journal, April 1850.

ness of the symptoms, and the successful result of the case. Dr. Deutsch ordered injections of milk, with carbonate of magnesia, and applied the same as wash to the exposed parts. The mother got by the mouth almond-emulsion, with carbonate of soda and extract of hyoscyamus. At first the injections, on account of the tenesmus, were retained but a very short time; but afterwards they were kept longer, and gradually diminished the calls to stool, and the pain in the belly. Next day there followed frequent, small, painful evacuations from the bowels; and as the pain became greater, and extended to the hypogastric region, which was very tender on pressure, Dr. Deutsch applied sixteen leeches to the sacral region; the lower belly was covered with anodyne emollient fomentations, the injections of milk were replaced by infusion of linseed, with poppy-heads, and the external injuries smeared with oil. Under this treatment—by which internal remedies were set aside—the pain, tenesmus, and purging gradually became less, till, at last, in eight days, nothing remained but slight tenderness in the rectum. The child, upon which the injuries were confined to the outer skin, got well in a few days. The amount of sulphuric acid was probably about three-eighths of a pound, and the amount of chamomile infusion, with which it was diluted, was about four times that of the acid."

11. *Oxalic Acid. Death by taking Oxalic Acid; detection of it in the heart; small portion of free acid in the contents of the stomach.*—In the "Medical Times," of February 11, Mr. OSBORN, of Southampton, details the following instance of the above.

"A few weeks since a woman, about 20 years of age, residing in this town, determined to destroy herself by taking oxalic acid. It appeared from the evidence, that death took place about twenty minutes or half an hour after sending for the poison, and before medical assistance was procured.

"Mr. Ware, a surgeon, being sent for, performed a post-mortem examination, by the request of the coroner, about forty hours after death. On opening the stomach, this gentleman found about three ounces of dark-coloured matter, resembling coffee-grounds, and the coats of the stomach and duodenum were highly reddened from congested blood. The mucous membrane of the stomach was softened, and broke up with the slightest friction. From these appearances, Mr. Ware requested me to analyse for the suspected poison. I first tested the contents of the stomach with litmus paper, when I was surprised to find only a trace of acid reaction, the paper remaining in contact several seconds before it became reddened. As far as could be ascertained, there had been no vomiting, except a little frothy matter, which exuded from the mouth; consequently the whole of the poison could not have escaped by this means; and if vomiting had taken place immediately after taking the poison, life would probably have been saved, or, at least, prolonged. I suspected, at first, that the acid might have combined with some alkali, or alkaline earth: but a further investigation did not appear to show that much, if any, was neutralised, and no antidote had been administered. On boiling the contents in distilled water, the litmus paper became immediately reddened, and the filtered liquid gave a small precipitation, with a solution of sulphate of lime, presenting the appearance of oxalate of lime, insoluble in acetic acid, soluble in nitric acid. A solution of sulphate of copper produced a turbid appearance, and no precipitation until after evaporation, when a heavy powder was deposited, of a bluish or greenish-white colour. The upper layer of the precipitate contained organic matter, which was poured off, and the residue well washed with distilled water, until all soluble matter was removed. The suspected oxalate of copper thus obtained was diffused in distilled water, and sulphuretted hydrogen passed through the liquid, until the gas ceased to be absorbed. After separating the sulphuret of copper by filtration, the liquid required evaporation and a second filtration, when it became colourless and acid. On applying the three tests, sulphate of lime precipitated oxalate of lime; sulphate of copper, the greenish-white oxalate; and nitrate of silver, a white precipitate, which fulminated when dried.

"The precipitate obtained by lead was decomposed with hydrosulphate of

ammonia; but, owing to the presence of animal matter, the solution was not so readily obtained in a state of purity, from the application of the tests.

"A portion of the stomach, intestine, and contents, were boiled in a solution of carbonate of potash, to remove any of the acid existing in an insoluble state. The filtrate was saturated with nitric acid, filtered, and treated with solutions of acetate of lead and copper; the precipitate obtained by the former was decomposed with sulphuric acid, and the latter with sulphuretted hydrogen; but the quantity of acid extracted by the potash did not exceed that which was obtained by boiling in distilled water, consequently, an insoluble oxalate could not have existed. A piece of the stomach, after being washed and boiled in the solution of potash, and treated as before, gave a trace of the acid.

"The heart was lastly examined, but this organ was not removed for chemical inquiry; it appeared quite healthy, and after being washed, was cut in small pieces, boiled for some time in carbonate of potash water, and, when treated as before, gave the same turbid appearance with solution of sulphate of copper, and a precipitation on evaporation. The oxalic acid was ultimately extracted in a pure and crystallized state, in a watch-glass, and, when redissolved, produced the characteristic precipitate above described. In some cases of poisoning with oxalic acid, the blood has been found free from the poison; but the blood, in this case, was not kept for examination."

## II. NARCOTIC POISONS.

12. *Case of Poisoning with Hydrocyanic Acid. Recovery by cold Douche.*—Professor CHRISTISON\* has related the following instructive case, in which recovery occurred after forty-five minims had been swallowed, with a view to suicide.

"A gentleman, about sixty years of age, whose mind had begun to give way under the pressure of dissipation and misfortune, and who had several times threatened to commit suicide, hastily summoned his wife one evening, told her he had just taken prussic acid to put an end to his miseries, and immediately fell down senseless on a sofa, without either cry or convulsion, but drawing his breath deeply, forcibly, and slowly. Medical aid was instantly sent for in all directions. Nearly half an hour appeared to have elapsed before I reached him. Dr. Adam Hunter and Mr. Carmichael had arrived, however: the stomach-pump had been immediately resorted to, and the first stroke of the pump was made as I entered the room.

"The convulsive respiration at the outset had been soon succeeded by regular breathing, with snorting inspiration, and moaning expiration. The insensibility was complete from the first; the body was excessively relaxed, and without any convulsive movement; the eyes were wide open, staring straight forward upon vacancy, injected, watery, and with the pupils somewhat contracted, but not more so than they often are naturally in persons of his age; and the face and head were congested and hot. The introduction of the tube of the stomach-pump did not elicit the slightest sign of consciousness. In this state I found him on my arrival, wholly unconscious under all ordinary mechanical stimulation, totally relaxed and powerless, and breathing deeply, laboriously, and stertorously, but with ordinary frequency. The pulse was above 100, very small, feeble, yet regular.

"The first liquid withdrawn by the stomach-pump, amounting to six ounces, was a colourless, nearly clear, watery fluid, being little else than water introduced by the pump upon an empty stomach, for he had taken no food since breakfast. My two friends could not observe any odour of hydrocyanic acid in this fluid, even while warm and fresh drawn; and I could detect it only faintly, and, I must admit, equivocally, on whiffing it slowly and steadily for some seconds. Nor was there any hydrocyanic acid odour in his breath, or near him, or in any part of the room.

"The stomach was quickly and repeatedly cleared out, and ammonia was applied

\* Monthly Journal of Medical Science, Feb. 1850.

to the nostrils from time to time, but without any sign of reviving consciousness. His head was then brought to the edge of the sofa, and, while it was held over a bucket, a stream of cold water was gently and steadily poured over it for two minutes, from a large jug, a foot or so above him. During this proceeding, the breathing rapidly became deeper and softer, and without snoring. The head and face, very much cooled, presented less turgescence. The eyes were suddenly turned in a lateral direction, and then an attempt seemed to be made to fix them upon any one who put a question in a firm voice. From this time he slowly recovered, without any further treatment; and in an hour and a half from the time when he gave the alarm, he was able to mutter 'Yes' or 'No,' correctly, when questioned, and he could turn on his side without assistance. When not roused, however, by being spoken to, he fell into a restless sopor, with moaning, and tendency to shivering. In three hours he was tolerably sensible, but drowsy: he slept profoundly all the subsequent night, and next morning was quite sensible, though still sleepy. His mind was evidently unhinged, but not more than before the act; and it has continued more or less so ever since, rendering seclusion from general society indispensable.

"As, in this instance, no bottle could be found in the room or under the window, and no satisfactory hydrocyanic odour could be perceived in the apartment, in the breath, or in the fluid first withdrawn from the stomach, a doubt might justly have arisen, whether hydrocyanic acid had been really swallowed. The symptoms, however, were so similar to those described as attending the slower cases of poisoning with this substance, as to leave at the time scarcely any doubt in my mind. Accordingly, on examining the liquid first withdrawn, I detected the poison in it by chemical analysis. It was first subjected to distillation, after the addition of a few drops of sulphuric acid; and half an ounce of clear fluid was thus drawn off. This had only a very doubtful hydrocyanic odour, although there was no other odour strong enough to cover it. But, on adding two drops of the pharmaceutic solution of potash, then a few drops of the two sulphates of iron, mixed in the proportion of one equivalent of sesquioxide-sulphate, and two of protoxide-sulphate, and, lastly, a single drop of sulphuric acid, a considerable precipitate of Prussian blue was obtained instantly and characteristically. Meanwhile the patient gradually admitted that he had asked, in the morning of the act, at a certain druggist's, for a sufficient dose of prussic acid, of full strength, to kill a dog, and that he got a *drachm*. The druggist afterwards supplied Dr. Hunter with what he believed to be a similar quantity, from the same stock. This I found to amount to forty-five minims; and, on applying the very convenient test of the Edinburgh Pharmacopœia, I ascertained that it was of the due strength, and neither too weak nor too strong. The acid, therefore, contained about a thirtieth of pure hydrocyanic acid; so that our patient had taken between a *grain and a half* and *two grains* of radical hydrocyanic acid.

"The practical deductions to be drawn from this case are various, and not unimportant.

"1. The symptoms being so intense, while there still remained some poison to be absorbed from the stomach, little doubt can exist that the case would have proved fatal without assistance. Since the trial of Mr. Tawell, doubts have been expressed as to the accuracy of the statement in my book on Poisons (p. 770), that two-thirds of a grain may prove fatal, because the facts on which that statement is founded had not been very accurately recorded by their authors. The present case, however, will at all events render it in the highest degree probable, that a *grain and a half* will prove adequate to occasion death.

"2. It is clear that death may be caused by hydrocyanic acid, *without any odour* of it being remarked in the breath, or in the first fluid withdrawn from the stomach, even although the odour be carefully sought for, and although the poison be present.

"3. The notion entertained by various writers in the London journals on the occasion of the trial of Tawell, that it is an invariable circumstance that a *piercing cry* ushers in the action of a poisonous dose of hydrocyanic acid, is evidently erroneous, and founded on limited experience.

"4. Dr. Herbst, of Göttingen, was the first to propose the *cold affusion* as a



remedy for poisoning with hydrocyanic acid. Mr. Bankes, of Louth, seems to have been the first to substitute the cold douche of the head only. For many reasons the latter would seem, *a priori*, to be the more suitable; and the present case shows that it is an energetic remedy, when the other means available in so urgent an emergency are inefficacious."

13. *Evidence of Poisoning by Hydrocyanic Acid.*—In the August number of the "British American Journal" for 1848, Dr. W. WRIGHT, of M'Gill College, British America, deduces the following inferences upon the different points connected with the above subject:—

i. *As to the State of the Eyes.*—1. That there is no constant state of the eyes. 2. That the eye-balls are generally prominent, glistening, and bright; pupils dilated, and more or less insensible.

ii. *State of the Countenance.*—1. The countenance may retain its natural appearance. 2. It may be pale and calm, as in sleep. 3. It may be livid, turgid, and distorted, with foam issuing from the mouth. 4. That this state is analogous to that observed in epilepsy, while the immediately preceding resembles asphyxia from carbonic acid.

iii. *State of the Respiration.*—1. Respiration is variously affected, and may be (a) noiseless and tranquil, as in sleep; (b) one or two gasps or inspirations; (c) noisy and stertorous; (d) convulsive and catching; (e) slow and laborious. 2. That restoratives cause deep inspirations. 3. That, owing to the above discrepancies, we cannot predict with certainty, that any specific change will be induced in the respiration by prussic acid.

iv. *State of the Pulse.*—1. That our knowledge of the effects of a fatal dose of prussic acid on the pulse is very imperfect; all that can be said is that it renders the pulse imperceptible.

v. *Consciousness.*—1. After a fatal dose, consciousness, reason, and intelligence, are retained for an interval of variable duration. 2. That this interval is usually short, and is succeeded by complete insensibility. 3. That the absence of delirium and mental hallucination are negative characteristics.

vi. *Acts of Volition.*—1. That a person after taking a fatal dose of prussic acid may retain, for a period, command over the voluntary muscles, sufficient to perform various and complicated actions. 2. That the duration of this period cannot be fixed. 3. That the powers of speech may not be immediately annihilated by a fatal dose, and it is not unlikely that they may be enjoyed as long as power and command over the voluntary muscles, generally, are maintained. 4. That, as in one instance, a rational answer was spoken by the victim to a question three minutes after he had swallowed the fatal dose, so, *a fortiori*, the period, during which consciousness, volition, and motion are exercible, might be, possibly, of three minutes' duration. 5. That, with this knowledge, we should be prepared to make allowances for the fulfilment of different intricate performances, in the interval of consciousness and muscular control, which follows the taking of poison. 6. Convulsions occurred in none of the cases cited above; it is, therefore, erroneous to connect them exclusively with those of slow death, or with those where subjects enjoyed more or less muscular control prior to death.

vii. *Of Sensation.*—That, with loss of consciousness, there is also loss of sensation. 2. Prior to the occurrence of which, it is not unlikely that the feelings are not of a disagreeable nature. 3. That prussic acid produces some particular effects on the special senses, as great bitterness of taste, and loud ringing in the ears. 4. That should restoratives be successful, sensation returns, accompanied with feelings more or less perverted, and varying from those of slight uneasiness to those of great agony. 5. That the property which prussic acid possesses of obliterating sensation classes it amongst the anæsthetic agents.

viii. *Of Motion.*—1. That the most important varieties of involuntary motion, observable after fatal doses of prussic acid have been swallowed, are—first, tonic spasm or tetanic rigidity; and, secondly, clonic spasms or convulsions, (epilepsy.) 2. That probably the tonic result from a major dose and greater susceptibility; and the clonic from a minor dose and less susceptibility. 3. That both, more especially from a maximum dose, may be absent. 4. That

death is least rapid in cases of convulsions. 5. That convulsions may be succeeded by rigidity. 6. That rigidity may occur without convulsions, and that it usually appears on the departure of convulsions. 7. That the absence of convulsions is denoted by placidity of the countenance, non-clenching of the hands, natural posture, want of derangement of the clothes, and other marks of struggling. 8. The results from experiments on animals as regards convulsions are not to be expected in the human subject, in whom convulsions are not constant but occasional symptoms.

ix. *Of the Odour*.—1. That the odour is not always present in the breath in cases of poisoning by prussic acid. 2. That if present, it may be questionable from—first, its weakness, which may be due to many causes; secondly, its being masked by other odours; and thirdly, from discords in the opinions of those testing it.

x. *Of the Shriek*.—1. That in man the absence of the shriek is the rule, its presence the exception. 2. It is not improbable that loud gasping inspirations have been mistaken for it. 3. That when it does occur, it is most likely a simple expression of terror, wherefore it might be present only in homicidal or accidental cases. 4. That it would be likely to occur in cases of epilepsy and convulsions.

xi. *The evacuation of the Rectum and Bladder* is an accidental, rather than an essential symptom.

### III. NARCOTICS—ACRID POISONS.

14. *Digitalis*.—M. DE COLLEVILLE (Journ. de Méd. de Bordeaux) relates an instance of recovery from the effects of a large dose of digitalis.

A woman, æt. 68, while suffering from œdema of the lungs, and when nearly convalescent, was ordered to take an infusion of the dried leaves of digitalis, in the proportion of (60 centigrammes)  $9\frac{1}{2}$  grains in a quart of water. The druggist by some accident used (15 grammes)  $231\frac{1}{2}$  grains. This was infused in eight glasses of water, and administered to the patient in divided doses. She was soon attacked with great uneasiness, nausea, bilious vomiting, confused vision, amounting to blindness, ringing in the ears, vertigo, convulsions, and syncope. The face was pale; there was great coldness of the skin, with palpitation; thready, slow, and intermittent pulse, and pain in the abdomen. These effects were produced by four doses of the infusion. A physician who saw the patient early the following morning, found her in a highly dangerous condition. He prescribed saline enemata, sinapisms with warm bottles to the feet, and frictions with camphorated spirit to the skin. Strong coffee was administered internally. In six hours there was no apparent amendment: the vomiting, convulsions, and fits of syncope continued; but the difficulty of breathing under which the patient had previously laboured had entirely disappeared; there were no longer symptoms of œdema of the lungs, and the chief object then was to counteract the effects of the poison. Syrup of orange-peel and other simple medicines were prescribed, and an enema of assafoetida and camphor administered. Three days after the accident the vomitings were less frequent, and the syncope and convulsions had ceased: but there was still vertigo, with ringing in the ears and hallucinations of vision. In six days the patient had perfectly recovered from the effects of the poison.

15. *Strychnia*.—Mr. THOMPSON (Pharmaceutical Journal) points out the following simple method of detecting the presence of the substance.

Having placed a drop of strong sulphuric acid on a piece of glass, add to it a small quantity of the suspected substance, and stir the whole together, so as to favour solution; then sprinkle over the mixture a little powdered bichromate of potash, and gently move a glass rod through the fluid. If strychnia be present, a violet colour of considerable beauty will be almost immediately produced, which, after a few minutes, will fade into a reddish-yellow, but may be renewed by the addition of more bichromate so long as any strychnia remains undestroyed in the mixture. In this way 1-1000th of a grain of that alkaloid may be made

to yield a very decisive indication. The points to be noticed are, that sulphuric acid alone produces no apparent effect, and that the action begins at once around each particle of the bichromate, so that if the glass be held in a vertical position, streams of a violet-coloured fluid may be seen to flow from each particle; and if, at this time, the whole be slowly stirred, the entire bulk of the fluid will speedily assume the same characteristic tint.

16. *Belladonna. Case of alleged Poisoning by Extract of Belladonna. Was Death produced by Poison, or was it the Result of Disease?\**—The following case is of great professional interest. There can be no doubt that the porter who gave out extract of belladonna with merely verbal instructions, was guilty of gross, not to say criminal, neglect, especially as he admitted that he knew it to be *poisonous*. The principal question at the inquest was—Did the deceased die from the effects of belladonna, or from natural causes? In reference to this question, a great difference of opinion arose among the medical witnesses. Taking the whole of the facts as stated at the inquest, we are inclined to think that death from the action of belladonna was *not proved*, and that the verdict of the jury was correct. The reasons assigned by Mr. Law against death from belladonna are forcible. It is not enough, in these cases, that death from poison should be rendered probable. It must be made absolutely, undeniably, and unequivocally *certain*, or no verdict to inculcate another can be returned.

An inquest was held at the Town Hall, Sheffield, on Thursday, July 6th, on the body of THOMAS GREAVES, alleged to have died from the effects of an overdose of extract of belladonna, taken by mistake.

The facts of the case are thus detailed in the evidence of the widow of the deceased.

Hannah Greaves, widow of the deceased, examined.—I live in Love-Lane, Sheffield. My husband was 76 years of age, and formerly a silversmith. He was lately in the habit of assisting Mr. Butterworth, a publican, in Fargate. He was an out-patient of the Sheffield Infirmary, and had been there twice. He went there on Tuesday last, the 4th of July, about nine o'clock, and returned home about eleven in the forenoon. He brought from the Infirmary a box of pills, some ointment in a box, and a plaster. The ointment was of a black colour. He would not take any of the stuff till Mrs. Taylor came. She came about from five to six in the evening. I saw him take a pill out of the box, and a small portion of black stuff out of a box. He took it with his own fingers, and said he was to take it, but there were no directions. There was no reading or direction on the pill-box or the ointment-box. He went to bed about seven o'clock. Before he went to bed he seemed dilatory about undressing himself, and his speech was gone. He took his breath very hardly, and rattled, and got worse and worse all the night until the morning. We never had our clothes off during the night. He complained all night of inflammation of his breast, and that he could not get his breath well. He died next day at eleven o'clock in the forenoon. He never spoke to me all the night. Just before he died he began to vomit, and asked my daughter for me. I asked him if he wanted anything, and he said no. He was convulsed all night. Mrs. Taylor put the plaster on. I think the stuff my husband took was *not so big as a pill*. I cannot say whether he used a spoon or a knife on that occasion. He could read a little. Neither of my daughters saw him take the physic.

*Post-mortem appearances.*—Nathaniel Pearson, surgeon, examined.—I was called in on Wednesday morning at half-past nine to attend the deceased. I found him in a dying state, gasping for breath: and as I considered him past the aid of remedies, I did not administer anything to him. I left him about ten, and he died in about an hour after. I have since, assisted by Mr. Wm. Jackson, made a post-mortem examination of the body of the deceased. Externally, the body presented a somewhat emaciated appearance, and there were no marks of violence. The vessels and membranes of the brain were highly injected, and the larger vessels distended with dark-coloured blood. The cavities of the brain were also distended with serous fluid, and the substance

\* Provincial Journal, and Medical Gazette, Sept. 1849.

of the brain itself was softer than natural. The spinal canal was distended with a similar fluid and its vessels highly injected. The stomach appeared in a natural state, both externally and internally, except at the upper part of the larger curvature internally, where the mucous membrane presented a blackened appearance, of the size of the palm of the hand, indicating a state of incipient mortification of the part. The abdominal viscera otherwise presented no unhealthy appearance. The heart was quite natural in appearance; the lungs in an uncollapsed state, and much darker in appearance than natural. They were filled with air, arising from an obstructed condition of the respiratory organs. The bladder and the intestines were perfectly healthy.

*Was belladonna the cause of death?* This question is ably argued in the evidence of Mr. Law, surgeon to the Infirmary: "Having heard the medical evidence, in which are detailed both the symptoms which preceded death and the appearances which were observed on the post-mortem examination, I am decidedly of opinion that the deceased did not die either from belladonna or from any narcotico-acrid poison. I have not one word to say in justification of the manner in which this box, whether containing belladonna or not, was sent out of the Infirmary. I should have disapproved of its being sent out, even accompanied by the fullest possible, either written or printed, directions. It was done contrary to a well-understood order which I have given, and frequently repeated. The dose of belladonna which (if this be a case of poisoning) was given was only four grains: now there is *not on record one case in which either four grains, or any similar dose, produced death.* On looking at all the authorities I could, ending my researches with this work by Taylor, printed in the present year, I find twenty reports of cases of poisoning (but not fatal) by belladonna. In these cases I find the largest dose taken was one ounce, and that the doses varied (and the symptoms also) from that quantity downward; but where the doses were very small, the symptoms were also trifling. There is not a fatal case of poisoning by the *extract* of belladonna taken internally on record. There was in the case of Thomas Greaves, the deceased, dilatation of the pupil, but no insensibility of it, and *dilatation without insensibility is not a sign of poisoning by belladonna.* The first and most prominent symptoms of poisoning by belladonna were all absent. There was *no dryness of the mouth and gullet, no difficulty in swallowing*, no tumefaction; and, in the evidence of the medical witnesses, no mention is made of redness of the face, hands, or any other part of the surface of the body. Nausea, a common symptom of poisoning by belladonna, was not spoken of as one of the symptoms preceding death. There was the absence of that lively *talkative delirium which has characterised almost every case of belladonna poisoning*, either by the extract, the root, the leaves, or the berries; and instead of these symptoms, it is my medical opinion that we had the symptoms which usually result from that kind of effusion into the ventricles of the brain and the spinal canal which was sworn to. The first medical witness stated that there was serous effusion in the ventricles of the brain, and in the spinal canal; but Mr. Jackson stated that this effusion was found in these situations, and also at the base of the brain. Now, serous effusion is quite sufficient to produce death; but whether it exists in any or in all of these situations, it is no sign whatever of poisoning by belladonna. There is one case, and only one, recorded in which there was softening of the brain. The appearances, therefore, of the brain were not those of poisoning by belladonna. The tubercula quadrigemina are pointed out by a very high authority, Flourens, as being the part of the brain principally affected; and the condition of this part of the brain has not been alluded to either by Mr. Jackson or Mr. Pearson. We find a black patch, as large as the palm of the hand, on the upper part of the larger curvature of the stomach, and this black patch is sworn to as a patch of incipient mortification. M. Gaultier de Claubry had 180 cases of poisoning by belladonna berries, and he examined the fatal cases; but neither he, nor Beck, nor Taylor, nor any other authority whatever, make any mention of *mortification in any organ or texture of the body* as one of the symptoms of poisoning by belladonna in any form. Neither of the medical gentlemen who have given evidence here have seen a case of poisoning by belladonna; and all medical facts and pathological principles oppose the belief that four grains

of the extract of belladonna could produce, either in sixteen hours or any longer period, a patch of mortification in the stomach. I am quite aware that these authorities speak of rapid decomposition of the bodies killed with belladonna; but rapid decomposition of the whole body is neither mortification, nor in the remotest manner allied to it. A mortified patch of mucous membrane would not be black unless it were dyed black by some extraneous body. In all the cases I have witnessed (and they are not few), the colour has been the colour of the secretions—generally yellow, sometimes gray, but never black; and I know that if the whole of the four grains swallowed had been applied to that part of the stomach, and if not one atom of it had been mixed with the secretions generally, it could not possibly have blackened so large a surface. It is my opinion that I ought to have had the opportunity of witnessing the post-mortem examination of the deceased; and it is my opinion that I have a right to complain that this opportunity was not afforded me. It is my opinion that a very small amount of mortification of the stomach—much smaller than the patch sworn to in this case—would have produced death; and it is quite certain that this mortification was not produced by belladonna. Belladonna was sworn to by the first medical witness as a narcotic poison simply—not as a narcotico-acrid poison. Now, it is only by its acrid property that it could affect the stomach at all, or produce any local effect whatever. John Bailey, the author of a very important monograph on the medical use of belladonna, says that he began his medical career with one grain, and gradually increased it; but subsequent experience taught him that it was best to begin with three grains, and he adhered to that plan. I am decidedly of opinion that four grains of belladonna, given to the deceased, though labouring under a disease of the chest, would not produce death."

17. *Poisoning by Mushrooms.*—Dr. BELLINI\* reports the following case, which points out forcibly the ill effects of the antiphlogistic treatment so much in vogue in France.

A family having walked out in the pine forests near Pisa, and being attracted by the number of mushrooms, which they mistook for the common edible, *Agaricus campestris*, they gathered them, and cooked them the next day, in a kind of soup made with meat, vegetables, cheese, eggs, and vinegar. The latter is mentioned particularly, inasmuch as vinegar is considered by many toxicologists to increase the activity of this poison. Eight persons, of the respective ages of 6, 8, 16, 22, 36, 40, 50, and 65, together with a cat, partook of the meal. Of these, the eldest person ate the least, in consequence of a portion of his plateful being stolen in joke while his head was turned. No ill effects were perceived the day and night following; but next day, about five in the morning, the following symptoms were complained of by the whole: Great abdominal pain, occurring at intervals; nausea; vomiting and purging of liquid matters; thirst; parched red tongue; abdomen retracted; humidity of the countenance, with hippocratic expression; eyes sunken, surrounded with a livid circle; skin cold, and covered with cold sweat; some were slightly delirious; all were more or less somnolent; the respiration was irregular, and the pulse feeble. Two, the mother and daughter, died in four days. The rest were convalescent at the end of a week; but for some time complained of debility, with tendency to faint, vertigo, &c.

The treatment was the exhibition of oil and mucilaginous drinks, leeches, and in one case bleeding; but the depletion was evidently injurious. Ether, in large doses, appeared to be most beneficial. The cat died with symptoms of hydrophobia.

The principal appearance noticed after death was extreme fluidity of the blood; the skin exhibited violet patches here and there; the brain almost healthy; lungs gorged; stomach empty; the mucous membrane slightly softened.

18. *Poisoning with Darnel Grass* (*Lolium temulentum*).—Dr. EITNER, of

\* Annales de Thérapeutiques.

Steinau,\* relates the following instance of poisoning with this substance: "The work-people of a farm complained to the authorities that they had suffered from the use of certain barley-meal, after taking which, in the form of pottage and dumplings, they had all become so ill as to be for some time unfit for their work. When they complained to their master, he treated the statement as a pretence for escaping from labour. The meal, which was submitted to Dr. Eitner for inspection by the authorities, showed a good many black specks, but had not otherwise any unusual appearance. When chewed dry, in small quantity, it caused a feeling of burning in the mouth and throat, and confusion in the head. The proprietor was ordered not to give any more of this grain to his work-people; but he disobeyed this injunction; thereupon the people, in a body, came and complained that they had again all been ill, after eating dumplings made of it. The symptoms which had attacked them each time after its use were severe vertigo, headache, anxiety and general uneasiness, followed by trembling and vomiting, accompanied by a small irregular pulse. The people had been for some hours, less or more, unable to work. Under these circumstances, the author, accompanied by a policeman, went to the place to inspect the grain from which this meal had been taken. He found a large store of thrashed barley, so copiously mingled with darnel, that at least every tenth grain was of this grass, which was readily distinguished by its longer ears from the barley, but from which it could not be separated by sifting or other mechanical means. To separate the darnel from the barley by picking was too tedious and expensive a process. The meal was, therefore, confiscated as an improper article of food. It was intended to have thrown out the whole meal upon the dunghill or into the water; but, at the request of the proprietor, and upon his assurance that he could give it without injury to his swine, he was allowed for this purpose to soak it in water, in the presence of the authorities, in feeding troughs, upon the belief that swine, from their strong digestive powers, can eat even narcotic substances, such as hyoscyamus, without injury! With respect to the grain, he was allowed either to use it solely as fodder for his cattle, or to pick out the darnel from it, and, before using it further, to submit it to the inspection of a miller, authorised for this purpose. He used it as fodder, not wishing to employ it any more as meal. The millers in the neighbourhood were further enjoined not to grind grain which was mixed with darnel seeds. From this date no more complaints were heard about this matter."

19. *Poisoning by Cayenne Pepper*.—Mr. SNAPT† relates the case of a youth, æt. 17, who complained of intense thirst, with abdominal uneasiness, but without tenderness on pressure; countenance haggard, &c., tongue furred, difficulty of swallowing. After death, which took place from asthenia, the stomach was found highly injected. It was stated that he had been in the habit of taking Cayenne as a medicine, but no definite information was obtained.

20. *Poisoning by the Seeds of the Helianthus, or Sun-flower*.—Mr. DAVEY, of Romford, relates the following case in the "Medical Gazette," Oct. 1848: "I was called to attend Eliza Hammond, æt. 23, an inmate of the Romford Union-house, unmarried, with an infant a few months old. I found her sitting on her bed, with an anxious countenance, eyes suffused, face deeply flushed, skin generally of a scarlet redness, and very hot; pulse 110, full, soft, and compressible; breathing rather difficult and hurried; tongue and fauces very red, and inclined to dryness; voice hoarse, pupils natural, mind perfectly clear. She complained of a severe burning sensation in the fauces, œsophagus, and epigastrium; tingling of the skin; nausea, headache, thirst, stiffness and dryness of the throat, and difficulty in articulating. She had vomited freely about half an hour before my visit; the ejected matters not preserved. The bowels had acted once in the morning.

\* Casper's Wochenschrift, Feb. 9, 1850, and Monthly Journal of Medical Science, July 1850.

† Medical Times, May 12.

"I found that, at 10 A. M. (being then in perfect health), she had eaten a quantity of sun-flower seeds. While eating them, she remarked that they had an unusually hot taste, and immediately afterwards felt a sensation of glowing in the throat and stomach. Shortly after this, she became very sick and ill, and her symptoms increased in severity until the vomiting occurred; she then felt rather better, and continued to amend up to the time of my visit. She could not say how many seeds she had eaten, but she thought more than 100.

"As she had vomited freely, I gave her a brisk aperient, and mucilaginous drinks, followed by salines; the next day she felt pretty well, and complained only of a slight headache, and some stiffness of the throat. The child continued well throughout, and the secretion of milk was uninfluenced. Although the seeds of the sun-flower are so commonly eaten with impunity, the foregoing case shows that serious results may occasionally ensue; and it is probable that many similar instances have occurred, but that, from the generally assumed harmlessness of the seeds, they have not been recognised as the cause of the symptoms. Hammond had repeatedly eaten them without ill effect, and on this occasion observed a decided difference in taste and pungency; whence we must conclude, that although usually absent, or in very small quantity, an acrid poison may be, and is occasionally, developed in the seeds of the sun-flower."

21. *Poisoning by Yew-berries.*—Mr. Lloyd, of Bath, reports this case, (see Guy's Hospital Reports, vol. vii.) accompanied by experiments on fish, and illustrated by references to older authors, exhibiting a general belief among our ancestors of their poisonous qualities.

A boy, æt. 4, ate many of the berries and nuts of the yew. Two days after he vomited, and was seized with convulsions, coma, and purging; dilated pupils; respiration frequent; lungs engorged; tongue excoriated; countenance pale and depressed; pulse small and wiry; extremities cold. This was the state the author found him in. An emetic was given, which cleared his stomach. Leeches were applied to the head, with abatement of the convulsions. Purgatives were given, to assist the natural efforts, and a teacupful and a half of drupes and nuts were voided; convulsions still continuing; leeches during the first day were again applied, with marked relief. Forty or fifty mucous evacuations, with many nuts in them, were passed for several days, accompanied with tormina and tenesmus of the most excruciating kind; these continued, with great prostration, for seven or ten days, allowing only of castor-oil and anodynes, with wine and a farinaceous diet, to be administered, at which time the evacuations began to contain vast quantities of pus, and petechiæ made their appearance on the fingers and toes, also ecchymoses. The vital powers from the beginning were so depressed, as to baffle anything like an active curative plan from being used, notwithstanding violent gastric and muco-enteric inflammation existed. There was pain to the last, before and after each evacuation, with prolapsus ani. He died nineteen days after eating the drupes and nuts.

—A second case is given by Dr. James Taylor.\* A child, æt. 6, ate freely of the berries, and about an hour after fell insensible. The body became cold, countenance pale, breathing laborious and frequent, pupils dilated, convulsions and vomiting. Emetics and purgatives were exhibited in vain, and death took place.

22. *Poisoning by Creasote.*—The following instance, in which creasote, used to allay toothache, produced symptoms of poisoning, is related by Mr. Macnamara in the "Dublin Medical Press," March 7, 1850:

On January 17th, Mr. Macnamara was called to see Mrs. M——, the wife of a respectable tradesman, and, on his arrival at the house, he found her presenting the following symptoms:—She was lying in her bed in a state of profound stupor, from which she could with difficulty be aroused for a few minutes, but only again to relapse into her former state of unconsciousness. Her countenance was fuller and more flushed than it naturally appeared; her eyes were

\* Provincial Journal, Nov. 29.

fixed, but the pupils were neither dilated nor contracted; the pulse was slow and laboured; the heart's action remarkably slow and weak: the stomach was inclined to be sick, and the ejecta bore a strong smell of creasote. When aroused, her chief complaints were of vertigo and general uneasiness in the head, as also of burning pain along the oesophageal track, and in the stomach. On inquiry, he ascertained that for the last twenty-four hours she had been suffering severely from toothache, to relieve which she had recourse to creasote, in the application of which she had been most unsparing, and that her present symptoms had gradually supervened, increasing in intensity up to the period of his arrival.

The treatment adopted consisted of the employment of mustard emetics, sinapisms over the cardiac and epigastric regions, with copious dashings of cold water in the face; the indications being, in the writer's opinion, to remove the poisonous effects of the creasote by the exhibition of medicines that would rouse the vital energies of the patient, at the same time that it removed from the stomach any of the creasote that might have accidentally found its way there. This line of treatment was attended with the happiest results; the stupor was completely removed, and the only symptom that remained was severe pain in the stomach, which was completely relieved by the administration of an anodyne draught, and the patient recovered without any other untoward symptoms than those consequent on a slight febrile disturbance, which rapidly yielded to antimonials, followed by purgatives.

The circumstance that renders this case most interesting is, the extreme rarity of cases of poisoning by creasote, no other case that the writer is aware of having occurred, but one which unfortunately proved fatal, and the particulars of which have not been preserved. It is recorded in the "*Liverpool Mercury*," and transferred thence to the columns of the "*Times*," June 17, 1839, and it is referred to by Dr. Pereira, in his talented work on the "*Materia Medica*." This case differs from that which is here brought forward in this particular, that a large quantity, amounting to two drachms, had been swallowed. In this case the writer attributes the injurious effects that ensued more to the prolonged inhalation of the creasote than to the actual quantity that got into the stomach; that some, however, did get into that viscus, is, in his opinion, evidenced by the great pain referred to the stomach and oesophageal track.

23. *Poisoning by Carbonic Acid. Danger arising from Exposure to the Smoke of Coal.*—Dr. Taylor relates the following case in instance of this in the "*Medical Gazette*," June 1, 1849:

On the morning of January 21, 1849, I was summoned to visit a family of five persons, who were taken ill under the following circumstances:—On the preceding night they had all retired to rest at 9 o'clock; at 4 A. M., the wife was awoke by her child (a girl of ten years of age), who was sleeping in the same room, being violently sick. On rising, she felt herself affected with great headache and giddiness, so that she could not maintain the erect position. The husband, on rising, experienced the same sensations, and had only time to advance into the next room, occupied by two young men, before he fell supine on the floor. Both these young men, on awaking, felt the same headache and overpowering sensations; one of them fell down insensible; and the other, with an effort, got down stairs to summon aid. This one felt better on reaching the open air. Violent headache, giddiness, and ringing in the ears, were present in all, which symptoms were much increased on raising the head from the pillow. In all the pulse was frequent and rather feeble, and the face pale; all had great languor and prostration of strength, and in one the mind was much confused. Two were in a state of undefinable alarm and anxiety; two complained of severe griping in the bowels; another had vomited. In all, the tongues were very white and loaded. None of them appeared to have any suspicion of the cause of their illness. The windows and doors were thrown open. Two of the individuals were removed out of the house, and were quite well in the course of two hours. The three others could not be raised without producing faintness. In these the symptoms continued throughout the day; and one of them had a violent diarrhoea for three hours. All felt quite better before bedtime.



In the case of these individuals are manifested very evidently all the incipient symptoms of the deleterious action of the vapour of burning fuel. The day before the accident the kitchen fire-place had smoked very much. On retiring to rest, the family had left the fire burning in a low state. The two sleeping apartments were small, and the fire-places were closed by boards, so that, when the doors were shut, they were destitute of all means of ventilation. The flues from both led into the chimney from the kitchen fire-place below. The noxious vapour from the smoking coal being blown down the chimneys of the room in which the individuals were sleeping, was evidently the cause of the accident.

Several cases similar to the above have been recorded from time to time; one, reported by Dr. John Gairdner, is precisely parallel. A coal fire had been kept up during the night, and the smoke produced by it had passed down another chimney into the bed-room, the door of which was, however, open. The individuals, six in number, awoke with giddiness, a reluctance to rise, stupefaction of mind, and a desire to return to sleep. When they were thoroughly roused, headache and vomiting succeeded. They gradually recovered by the following day.

It requires strong facts and a succession of accidents to warn the public against any unsuspected source of danger. It is to be hoped, however, that the late lamentable instance at St. John's Wood, near London, will for ever prevent the recurrence of the almost suicidal action of sleeping in a close apartment, heated by a stove constructed on such false and destructive principles as the one used on that occasion.

The case above related ought equally to afford warning of the extreme danger of sleeping in apartments which are known to be subject to smoke. The emanation from burning coal, particularly when it is smouldering, or in a low state of ignition, are quite as deadly as the fumes arising from charcoal, although perhaps less insidious in their action, on account of their being apparent or offensive to the senses. The air of the chamber which the individuals had respired in this case, contained, besides the carbonic acid and carbonic oxide, the products of combustion, a portion of sulphurous acid gas, which was notably evident to the senses.

[These are obviously cases of poisoning by carbonic acid gas. The effect of smoke, as observed when forced by a back-draught into a room where there is no fire, is merely irritant to the lungs. It excites violent cough in bronchitic subjects, and once nearly proved fatal to a patient of ours labouring under pneumonia. The symptoms in the above cases were cerebral, and due to carbonic acid.]

**24. Carbon. Animal Charcoal as an Antidote to Poisons.**—An interesting paper on this subject is contained in the "Medical Examiner" (American), for September, 1848. By Dr. RAND, of Philadelphia.

The increasing number and fatality of accidents from the vegetable poisons and their active principles, of late years, has attracted the attention of the profession, for the purpose of seeking some antidote which might always be trusted, or some plan of treatment on which reliance might be placed.

M. Donné, some twenty years since, proposed the use of iodine, bromine, and chlorine, as antidotes, on the ground that they combine with the poisonous principles, and form an inert compound. It has been found, however, that this inert compound readily decomposed by acids, the poison being liberated unchanged; but a more serious objection to the use of these elements as antidotes is, that they are themselves among the irritant poisons, and must be given with caution.

Tannic acid has also been proposed; but the fact of its compound with the poisonous principle being slightly soluble in water, and freely so in acetic acid, would seem to render it ineligible. M. Bussey,\* has recently suggested the use of magnesia, but the experiments with it appear to have been confined to the mineral poisons alone.

The usual mode of procedure, then, in such cases, and the only one on which any hopes of success were founded, has consisted in the free evacuation of the

\* Gazette Médicale de Paris, March 23, 1846.

stomach, and the use of such general measures as in each case might seem to be indicated.

In the "Transactions of the Medical Society of London," new series, vol. i., is a paper by Dr. A. B. Garrod, detailing some experiments in which he employed purified animal charcoal as an antidote. This is prepared from ivory black, by digesting it in dilute chlorohydric acid to remove the earthy matters, afterwards washing and heating it to redness in a covered crucible. The subjects of his experiments were dogs, rabbits, and guinea pigs. He administered large doses of opium, belladonna, aconite, nux vomica, delphinium, stavesacre, white hellebore, and their alkaloids, as well as digitalis, hemlock, tobacco, elaterium, ipecacuanha, hydrocyanic acid, cantharides, and arsenious acid, without injurious consequences, when sufficient animal charcoal was given simultaneously with them, or, in some cases, before the peculiar effects of the drug were developed. It also prevented, but less completely, the action of the bichloride of mercury and of the salts of copper and lead.

Dr. Garrod concludes from his experiments:—

1st. That animal charcoal has the power of combining, in the stomach, with the poisonous principles of animal and vegetable substances, and that the compounds thus produced are innocuous; therefore, when given before these poisons have become absorbed, it will act as an antidote.

2d. That animal charcoal will absorb some mineral substances, and render them inert; but so large a quantity of the charcoal is required, that it is not so well adapted for many poisons of this class, as their own special antidotes; the effects of arsenic, however, appear to be better combated by this than by any other article.

3d. That a certain amount of animal charcoal is required, about half an ounce to each grain of morphia, strychnia, or any other alkaloid—but, of course, much less for the substances from which they are obtained—as opium, nux vomica, &c.; a scruple of nux vomica not requiring more than half an ounce of charcoal.

4th. That the antidote itself exerts no injurious action on the body.

Dr. Garrod also remarks that, "Ivory black has a certain amount of antidotal power, but would be required in very much larger quantities, containing above 90 per cent. of earthy matter. Vegetable charcoal possesses but a small antidotal power compared with animal charcoal. Lamp-black is totally devoid of the property." He also suggests its use in poisoned wounds, syphilis, &c., in the form of a poultice, to absorb the virus and prevent its being taken into the system.

Previous to the publication of Dr. Garrod's paper, the researches of MM. Wapen, Holpoff, Warrington, and others, had proved that animal charcoal is capable of removing from their solutions—in some cases only by the aid of heat—the bitter, resinous, or active principles of quassia, and the other simple bitters; of colocynth, aloes, and other purgatives; of krameria and the other astringents; of guaiacum, cinchona, opium, nux vomica, and, in short of all vegetable substances submitted to its influence.

MM. WAPEN, CHEVALIER, and GRAHAM, have also discovered that it possesses the property of precipitating the oxides of a large number of metals from their solutions. Among the salts decomposed, may be mentioned the bichloride and the nitrates of the protoxide and deutoxide of mercury, the tartrate of antimony and potass, nitrate of silver and of cobalt, neutral acetate of lead, chloride of tin, sulphates of copper, zinc, and protoxide of iron. The acid salts, and many of the neutral salts, were exempt from its action; among these were the arsenites of potassa and soda, the acid nitrate of mercury, and the cyanide and ferrocyanide of potassium. It precipitates the antimonic, tungstic, and plumbic acids, but has no action on arsenious acid. Iodine and the ioduretted iodide of potassium were removed from their solutions, but sulphur was not.

To Dr. Garrod the credit is due of having first applied these facts to toxicology. It is true, however, that M. Bertrand, in 1813, proposed powdered charcoal as an antidote to arsenic, and is reported to have swallowed five grains of the drug in an emulsion of charcoal without bad effect. It is not

stated, however, that he used *animal* charcoal, and its claims as an antidote, strictly speaking, to arsenic, have since been disproved.\*

The method of preparing pure animal charcoal from ivory black, before mentioned, is tedious and wasteful, only ten per cent. being obtained, while the amount of acid used is considerable. A very good and pure charcoal is obtained by calcining leather scraps or blood with pearlsh, washing and reheating in a close crucible; it was this kind of charcoal which was principally used in the experiments to be detailed. Much of the discrepancy of experimenters with this substance, is undoubtedly due to their use of an impure specimen of it.

Taken internally, in moderate quantity, pure animal charcoal causes a sensation of warmth in the epigastric region, which soon subsides; the sensation produced by the hard particles in their passage through the pharynx and œsophagus is disagreeable, and sometimes very persistent. In large doses, or when the stomach is irritable, it produces vomiting, and sometimes considerable evidences of gastric irritation.

With a view of ascertaining more accurately the value of the proposed antidote, the writer performed a number of experiments, from which the following are selected as having the most direct bearing upon the subject:—

1. One grain of pure morphia was swallowed with about an ounce of pure animal charcoal, in warm water; no narcotic symptoms supervened, but there was some gastric irritation, which subsided in the course of the day.

2. One grain of sulphate of morphia was digested with pure animal charcoal until all bitterness was removed; the liquid, filtered off and swallowed, produced no effect.

3. Ten grains of extract of belladonna were swallowed with two drachms of the charcoal; there followed vertigo, dilated pupils, dimness of vision, exceeding dryness of the throat, and desire to sleep, all of which symptoms were relieved by the spontaneous vomiting of a very acid matter, and the use of stimuli. The pupil remained dilated through part of the next day.

4. The last experiment was repeated, an antacid having been premised, and the proportion of charcoal being doubled. Some dryness of the throat followed, but with no other symptom of the influence of the drug.

5. Fifteen grains of powdered digitalis were taken, with three drachms of the animal charcoal, without the slightest disturbance of the functions.

6. Twelve drops of the officinal hydrocyanic acid were swallowed, with two drachms of the pure charcoal, without a sedative result.

7. One grain of strychnia, dissolved by the aid of a drop of chlorohydric acid, was digested with animal charcoal until all bitterness was removed. The solution filtered and swallowed produced no effect; a similar solution, evaporated and tested with nitric acid, gave no red tinge.

8. One grain of strychnia was swallowed with an ounce of pure animal charcoal; no effects due to the strychnia could be perceived.

9. The purgative extracts were next tried, but produced no effect when sufficient animal charcoal was taken.

10. Camphor and musk were removed by animal charcoal from their tinctures, so far that they did not precipitate on the addition of water.

11. Phosphorus was removed from its ethereal solution by the charcoal.

12. Iodine was so far removed from its tincture and compound solution, as not to strike a blue colour with starch, and the iodine could not be liberated from the animal charcoal at a red heat.

13. Arsenious acid and a solution of arsenite of potassa were apparently unaffected, either in the hot or cold solution, by animal charcoal. This result, although it agrees with those of MM. Wapen and Graham, does not with the observations of Dr. Garrod, who states that animal charcoal "has greater power of removing arsenic from its solution than the hydrated sesqui-oxide of iron."

14. A solution of the bichloride of mercury, being treated with animal charcoal, gave, on filtration, no precipitate with ammonia.

\* Taylor on "Poisons," Amer. ed. p. 76.

It has been stated that the action of this agent is purely mechanical, enveloping the poison, thus protecting the coats of the stomach from its action, and preventing absorption; and that if given *after* the poison has been swallowed, instead of with it, it would prove useless. It has been said, also, that, considering this to be its mode of action, any ordinary inert powder would answer equally well. This may be true as regards arsenic, which is not removed from its solutions by animal charcoal, and such is the result of the experiments of Orfila and Christison; but the case of the alkaloids is different—they are wholly removed from their solutions by the animal charcoal entering into a firm union with them. Dr. Garrod's experiments show that vegetable charcoal and lamp-black are nearly or quite useless in counteracting the effects of poisons, and that in the milder poisons the administration of the proper article might be delayed ten or fifteen minutes with safety. These facts certainly seem to show that it acts otherwise than by merely enveloping the poison; but, granting such to be its action, if it only prevents the fatal effects of the poison, we have all that is desired. Experience alone can determine its positive value as an antidote, properly so-called.

When given as an antidote, the animal charcoal should be mixed with water as hot as the patient can swallow, as its action is much aided by an elevated temperature; the administration of large quantities of this agent alone (tepid) will often provoke emesis, which should be promoted by emetics or the stomach pump. Should a sufficient quantity of the poisons have been absorbed to produce its peculiar effects, they are to be combated by general measures. It would be proper in many cases to combine the charcoal with an antacid, as any considerable quantity of free acid in the stomach is found to interfere with its action.

Since pure animal charcoal requires time and care in its preparation, and does not deteriorate by keeping, suitable quantities should be kept on hand by apothecaries, and by physicians in the country. It was found, however, upon inquiry of numerous apothecaries in this city, that many did not keep the article, and of those who did, few had more than two or three ounces, and that sometimes of questionable purity.

In conclusion, we are perhaps justified in drawing, from the present state of our knowledge on this subject, the following conclusions:—

1st. That animal charcoal has the power of withdrawing, when used at a proper temperature and in sufficient quantity, most, if not all, known vegetable and animal poisonous principles, and certain mineral poisons from their solutions.

2d. That, given at the same time with, or shortly after these poisons have been swallowed, it prevents their deleterious action.

3d. That, given in cases of poisoning, it can exert no injurious influence; but, on the other hand, promotes vomiting, entangles the poison, and protects the coats of the stomach against it.

4th. That, although it cannot be substituted for the usual antidotes in poisoning by mineral substances, yet it may be usefully employed in conjunction with them or in their absence.

The necessarily confined space of this paper has compelled the writer to pass lightly over many important facts, and to leave untouched some points of interest, but of minor importance; among these are the questions of the possibility of the antidote being administered in time to be of use in poisoning by the more rapidly fatal agents; of its probable *modus operandi*; and that of the loss necessarily resulting in filtering the *warm* solutions of the alkaloids, during their preparation, through animal charcoal, in order to decolorise them.

—In connection with this Section of our Report, we would desire to direct the attention—particularly of our younger readers—to an excellent series of lectures in the "Medical Times," 1849-50, entitled, "Lectures on the Chemistry of the Poisons; or on Practical Toxicology, showing the applications of Chemistry to the Discovery of Crime," by H. LESTER, M.B., London.

## § II.—Wounds.

25. *On the Injuries to which the various Parts of the Body are liable, with especial Reference to their Mortality.*—The subjoined notice of Dr. SCHNEIDER'S investigations into the injuries to which the various parts of the body are liable is taken from the "British and Foreign Medico-Chirurgical Review" for January 1851.

This elaborate paper will be found of great interest to the medical legist, containing, as it does, an immense number of references to, and analyses of, the records of the severer injuries to which our frame is liable, many of which occurring in Germany have not been yet quoted in this country. It is almost a bibliographical manual upon the medico-legal bearings of the subject. We subjoin short accounts of one or two of the cases referred to.

"1. *Luxation of the cervical vertebra.* Before narrating this, we may observe, that we were not prepared to find our learned neighbours citing the practice of the English fox-hunters as authorities. We have often heard of it, but never believed that any amount of luxation had really taken place. Dr. Schneider is, however, of a different opinion; for he says, "that a reduction of a *subluxation* is not impossible is undoubtedly proved by the practice of the English hunters, who have acquired a peculiar dexterity in the management of this class of accidents. They place the insensible person between their legs, and putting the fingers of one hand into their mouth so as to be able to move the head by the upper jaw, and applying the other hand to the nape, press back the displaced part by a gentle wriggling movement. For success to follow, however, this must be done quickly on the spot."

"The possibility of the occurrence of a *complete luxation of the cervical vertebra without fracture* has been called into question; but a very remarkable case, here reprinted from Henke's "Zeitschrift" (vol. xi.), attests its reality. It occurred in the person of a strong, healthy peasant-woman, æt. 29, who was found lying dead upon a steep narrow staircase. On opening the cranium, the medulla oblongata was seen through the foramen magnum to be compressed by the displaced and movable atlas. On turning the body on its face, and carefully dissecting through the nape, the muscles were found of a bluish-red colour, but not displaced. No rupture of ligaments, muscles, or vessels was visible; but a complete luxation of the atlas, without any fracture, had taken place, a space of four lines separating the displaced bone from the occiput. The odontoid process and the other cervical vertebræ were in their ordinary position; and the spinal marrow was in a normal state, except where compressed by the dislocated vertebra. The injury had been caused by the violence employed by a strong man, who, seizing the woman while sleeping, by both ears, and implanting his elbows against her shoulders, drew her head upwards with all his might, and quickly twisted it round.

"2. *Recovery after a wound of the aorta.*—Dr. Heil communicated the following case to Henke's "Zeitschrift" (vol. xxxiii.). A powerful soldier, æt. 32, while upon furlough, was stabbed by an ordinary pocket-knife between the fifth and sixth ribs on the left side. A most profuse hæmorrhage resulted, which continued several hours, and at last became arrested. The loss of blood, however, induced amaurosis, which resisting all treatment, he was discharged from the army. He now gave himself up to dissipated habits, and fell a victim to pneumonia about a year after the accident had happened. On examination, the cicatrix was found to have involved the pleura and corresponding portion of the lung; for this organ had been penetrated by the cutting instrument, which, directed upwards, had reached the *aorta ascendens*, in which was noticed a considerable aperture with jagged edges, and closed exactly by a thrombus, in connection with the external cicatrix. Hæmorrhage had thus been arrested by Nature, a coagulum having been formed during the application of external cold.

"From a general review of the various injuries to which the body is liable, Dr. Schneider comes to the conclusion that the number of absolutely and necessarily fatal injuries is small, very bad wounds, in almost all parts of the body, sometimes becoming healed. Henke likewise states that the cases are very rare

in which an injury can be pronounced absolutely fatal. There are many concurrent circumstances, also, which may modify the amount of danger, such as the state of health, age, &c.

26. *On Wounds of the Internal Mammary Artery in a Medico-Legal Point of View.*\*—M. TOURDES, having met with a fatal case of wound of the internal mammary artery, which gave rise to a medico-legal investigation, was induced to collect all the cases he could find recorded, and endeavour to deduce an appreciation of their importance, which has scarcely been attempted by writers upon surgery and legal medicine. So little has been recorded on the subject, that he has only been able to find ten cases detailed besides his own, and of these he furnishes analyses.

Of the 11 cases, one was an accident, another a suicide, and nine were homicides. At its origin, this artery is completely protected by the clavicle and first rib; but is exposed to injury in its course between the first and seventh ribs. Its distance from the sternum varies during this course, chiefly on account of the unequal breadth of the different portions of the bone. Thus it is found 10 millimetres from it in the first intercostal space, 16 in the second, 11 in the third, 12 in the fourth, 8 in the fifth, and 15 in the sixth. The cartilages of the ribs, too, increasing in length as they descend, the artery passes under the middle of the second, under the inner third of the third and fourth, and crosses the fifth and sixth in such a manner as to leave but a fifth of their length on the inner side. It equals a large crowquill in size, gives out in its course both external and internal branches, and bifurcates in the sixth intercostal space, its external branch coursing between the sixth and seventh cartilage. We may be certain that it is implicated in any wound which divides these two cartilages transversely at 15 millimetres at least from the sternum. Separated from the pleura only by a thin cellular layer, and by some fibres of the triangularis sterni, it is protected in front by the parietes of the thorax, the larger size of the superior intercostal spaces leaving it there most exposed to injury. Of the 11 recorded cases, in 7 it has been wounded through a cartilage, and in 4 in one of the three upper intercostal spaces. The accident is by no means always easy of detection, for external hæmorrhage is often absent when the wound is narrow and sinuous, or when the closure of the two divided portions of the cartilage prevent the issue of the blood. When the blood is poured into the pleura, the absence of any other lesion, to account for an effusion found to be present, is the chief guide; but many circumstances here obscure the diagnosis, as, e. g., the co-existence of a serious lesion of the lungs. In 6 out of the 11 cases, death has directly or indirectly resulted from the wound, and of the remaining 5, in only 1 was the recovery prompt. Four ran the greatest risks; and in 3 of these, paracentesis thoracis was required for a consecutive empyema. Hæmorrhage is the cause of this great amount of danger, and the blood may either appear externally, burrow between the muscles, infiltrate into the anterior mediastinum, or fall into the pericardium, pleura, or even the abdomen. In most cases it is into the pleura the effusion takes place. This was so in 9 out of the 11 cases, and 5 out of the 9 died. The effusion which, when in large quantities, may cause death by inducing asphyxia, generally acts by producing severe pleurisy. In the 9 cases, one patient alone survived without undergoing paracentesis, and he only after running all the risk of a chronic pleurisy.

In treating these cases, we have to consider the lesion of the artery and the effusion of the blood. Larrey applies to wounds of this artery the rule he lays down for the treatment of all wounds of the chest producing internal hæmorrhage, viz., to close the external wound, and leave the case to nature, the accumulated blood itself making compression on the bleeding vessel. The results he obtained from this practice hold out little encouragement for others to follow it. Therefore other surgeons, as Delpech, Marjolin, and Velpeau, provided a reasonable certainty of a lesion of this artery can be obtained, sanction the application of a ligature. Objections to this have been offered, on the score of

\* British and Foreign Medico-Chirurgical Review, Oct. 1849.

the difficulties and danger of such an operation; but if the vessel has been wounded in the second, third, or even fourth intercostal space, its two ends might be tied without any great difficulty, while the danger of cutting through a cartilage, and attempting to get at it lower down, is not comparable with that attendant upon a large effusion of blood into the pleura. If the hæmorrhage seems to be arrested, or its precise seat cannot be ascertained, the ordinary expectant treatment must be followed. In respect to the effused blood, the usual surgical doctrine is contained in two precepts, viz., give issue to the effused blood, if it menaces the patient with suffocation; and wait, if the symptoms are not urgent, until the hæmorrhage has ceased and resorption proves insufficient. But to wait for this is to await the development of violent or fatal inflammatory action; and therefore, when the quantity of blood is great, and the hæmorrhage arrested, a portion of the effused blood may be evacuated by the wound, either by so adjusting the position of the patient, or by the employment of aspiration. If such evacuation by the wound be impossible, we may suppose a case in which immediate paracentesis is advisable; but the circumstances will rarely justify this. When the effusion is inconsiderable, or we are uncertain as to the simplicity of the lesion, we should follow the ordinary practice; and such will form the majority of cases. The consecutive treatment must be such as favours the resorption of the fluid; and where this does not take place, it is usually desirable, about the twelfth or fourteenth day, to resort to paracentesis, that is, before the pleura has undergone sufficient alteration to render the success of the operation but little probable. In the 5 cases of the 11 in which it was employed, in 3 it succeeded, and in two was without effect. Of 4 patients who were cured, 3 underwent it; of 5 who died, 1 only was operated upon, 2 of these, however, dying early. As a general rule, it adds to the chances of recovery.

"Such are the considerations which may aid us in appreciating the treatment of this accident; but we must never forget the reserve with which such inductions should be introduced into medico-legal practice.

"It may be useful to subjoin the references to the 10 cases quoted by M. Tourdes. Chopart, "Dict. des Sciences Médicales," tom. xlv, p. 12; Larrey, "Clinique Chirurgicale," tom. ii, pp. 181, 261, 291; Valentin, "Journ. de Chirurgie de Désault," tom. iv, p. 108; Sancerotte, "Mélanges de Chirurgie," tom. ii, p. 369; Raybard, "Gaz. Méd. de Paris," 1841, p. 55; Bonnet, "Velpéau, Méd. Opér." 2me édit. tom. ii, p. 252; De Montègre, "Dissertation sur les Plaies pénétrantes de la Poitrine," 1836, No. vi, p. 19; Simeons, "Henke, Zeitschrift für die Staatsarzneikunde," Jan. 1849, p. 123."—*Annales d'Hygiène*, tom. xlii, pp. 165-201.

### § III.—Personal Identity.

27. *On the Modifications which certain Parts of the Body undergo, in consequence of the Exercise of different Occupations, considered in their bearing upon the Medico-Legal Establishment of Personal Identity.*—M. TARDIEU furnishes, in a paper in the "*Annales d'Hygiène*," analysed in the "*British and Foreign Medico-Chirurgical Review*," July 1850, a detailed account of the physical changes which the exercise of forty-eight different occupations impresses upon certain parts of the frame, and which, by indicating the fact of such employments having been followed, may serve, in some cases, to aid in the establishment of identity, and the detection of crime. We can only notice his general summary of the results of the investigation.

Considered according to their nature, the alterations observed may be arranged in four categories; viz., those proceeding from thickening of the epidermis, from changes in the structure of the skin, from a modification of the normal colour, and from deformities. *Thickening of the epidermis* is the most common and direct effect of manual labour, whatever may be the nature of the procedures or the tools employed; and it is in the different forms which this thickening assumes, that the greater number of signs, distinctive of certain occupations, are to be found. It may vary, from a mere induration to a hard callosity, or prominent elevation; and it is important to observe, not only the differences

in its degree, but also whatever is special and characteristic in its disposal. Thus, the simple thickening of the forearm of carders, and the hardened palm of drummers, blacksmiths, wheelwrights, locksmiths, and the like, differ much from the prominent, indurated, circumscribed callosity, as round sometimes as a corn, which is especially found in coachmen, hair-dressers, copyists or stone-cutters; or the prominent and extensive indurations seen in different parts in washerwomen, engravers on metals, organ players, turners, and joiners. In young workmen, too, whose skin is more delicate, in place of indurations, softer and reddish tumours are observed. Changes are not always confined to the surface of the skin. Softening, and sometimes destruction of the *dermis* may take place, and deep fissures be formed, as in bleachers, unladers of vessels, and polishers. These changes are sometimes brought about mechanically, as by the play of the polisher's file; sometimes by a permanent source of irritation, or the frequent contact of destructive substances. Thus while immersion in river-water produces the *grenouille* in unladers, irritation is induced in the polishers by the vinegar, fatty oils, pumice-stone, and other substances they employ. In some occupations the *nails* are destroyed, as in the mother-of-pearl workers and the spoon polishers. The effect of a constant repetition of certain kinds of manual labour is also seen in the formation of tumours and cysts beneath the skin, and in its substance, in the unlader, the tailor, and the vermicelli-maker. Changes of *colour*, though observed less frequently, are nowise less characteristic, and are found in bleachers, dyers, burnishers, curriers, copper-workers, polishers, locksmiths, &c. As, however, changes of colour which much resemble each other may be due to very different causes, a mere inspection does not suffice, and chemical analysis, or other means, should be resorted to.

Besides these more superficial lesions, the exercise of certain occupations induces often true *deformities*, influencing sometimes a particular organ, at others an entire portion of the body, or even the constitution in general. In some cases there is a mere modification in the natural form of a finger or a nail. Thus the fingers of shoemakers, flower-makers, ironers, and glaziers, have all analagous spatuliform shapes, but yet are very distinct from each other. In other cases the deformity consists in a change in the relative situation of organs. This is seen in the angular deviation of the fingers of nail-makers and cabinet-makers, the flexion of the fingers in ironers, and the serious contraction of the flexor tendons in nail-makers. More general deformities, affecting certain portions of the trunk or limbs, are observed in nail-makers, shoemakers, porters, tailors, and turners. This last description of change is of especial importance, in consequence of its permanence and its specific character, and also because it often produces true and incurable infirmities.

In reference to the object of this paper, the *seat* of these changes is as important to consider as their nature, this indeed giving them their distinctive character. Of the forty-eight different occupations examined, the *hands* in thirty-nine furnish, if not the only, the principal signs of their pursuit; several occupations, however, leaving their imprint on different parts of the body. In so large a number of different occupations, for distinctive signs to be furnished by the same organ minute differences must be taken into account, and the most remarkable particulars alone indicated. The right hand is that generally distinguished; and when both hands are so, it is not uncommon to find a different description of alteration occupying the two. It is almost always in the folds of the flexion of the palmar surface, that the greatest degree of thickening of the epidermis is observed, and opposite the joints that the corn-like callosities are found. The entire hand, only its palmar surface, the whole or only certain of the fingers, undergo changes in the different occupations.

Peculiarities in the *feet* are much more rare, and are chiefly to be remarked in tailors and turners. Organ-players, who rest the instrument just above the knee, frequently have at this point a thickening of the epidermis of almost a bony consistence. The *arms* are chiefly remarkable in washerwomen, carders, and metal-gilders. The *trunk* undergoes various deformities. These sometimes occupy the chest, as in the shoemaker, tailor, and brass turner; sometimes the shoulder, as in the nail-maker, porter, and turner; or the hip, as in the mother-



of-pearl workers. Allusion is here made to characteristic deformities, and not to that arched form common to most artisans.

In order to justly appreciate these different changes, we should be familiar with the manœuvres of each occupation, and the habits of the artisan. The mere mode of holding the hammer differs in almost every employment, so that the nail-maker, cabinet-maker, joiner, book-binder, blacksmith, and stone-cutter present their distinctive signs. A no less striking example is given in the various descriptions of polishers. Not only must the nature of the tool be known, but the attitude of the workman also. So, too, in this respect the wearing out of clothes in certain determinate places, has to be observed; and with regard to many occupations, as tailors, shoemakers, &c., information of this kind is sometimes of the greatest importance.

Some of these signs of identity are not of sufficient constancy and certainty to be considered as truly distinctive; while others, by reason of their fixedness and their peculiarity, are of true value. Those which consist in a simple modification of the epidermic secretion or coloration, disappear more or less readily under the influence of a temporary or continuous cessation from labour; yet even after a prolonged stay in hospital, traces of the occupation are often met with. The natural delicacy or roughness of the skin, strength or weakness of the constitution, the duration of the exposure to the effects of the occupation, and the adoption or neglect of precaution in certain employments, all tend to impress a character of inconstancy on these signs. Others, again, either because they are not sufficiently advanced, or are not special enough, appertaining in common to several occupations, do not possess sufficient certainty to be employed as medico-legal proofs of identity. Finally, there are others which are quite characteristic, being sufficiently constant and special enough to designate clearly and certainly, by the nature and seat of the alteration, the cause that has produced it, the kind of labour it is the consequence of, the tool employed by the artisan, and the attitude he has assumed—in fact, the occupation to which he belongs.

The occupations examined by the author are divisible into the three categories—1st. Those offering but *uncertain signs*, among which are wheelwrights, sempstresses, lead-workers, and vermicelli-makers. 2d. Occupations the signs of which are *certain but not constant*, as in carders, coachmen, hair-dressers, hair-workers, dock-porters, lace-workers, copyists, watch-makers, millers, mother-of-pearl workers, book-binders, and drummers. 3. Occupations presenting *certain and constant signs*, as bleachers, laundresses, burnishers, nail-makers, shoe-makers, curriers, brass-workers, cabinet-makers, flower-makers, metal-gilders, engravers, organ-players, joiners, piercers of boot-holes, polishers, locksmiths, tailors, stone-cutters, dyers, turners, and glaziers.

It results from the study of this subject, that if characteristic alterations are sometimes absent, they are far more frequently present, and then constitute a certain means of recognising, as far as their occupation is concerned, the identity of certain individuals.

#### § IV.—*Infanticide.*

27. *Infanticide. Retention of Life after long Exposure.*—Dr. MILLER, in a recent Number of Henke's "Zeitschrift," as analysed in the "British and Foreign Medico-Chirurgical Review," January 1850, relates the particulars of the judicial investigation of several cases of infanticide, among which there is one of considerable interest. A peasant woman delivered herself of a full-timed child, in the vicinity of a wood, 18th of August 1842; and fearing discovery, she concealed it in the hollow of a tree, thrusting its head forwards into the portion of the cavity which led towards the root, so as to exert considerable compression on the body, doubling it up, as it were. She then laid two stones of three or four pounds weight upon its buttocks, and concealed the hole in the tree with a larger stone. By a lucky accident, a passer-by on the 21st heard its moaning, and withdrew it from its prison, covered all over with fir spiculæ and ants. There were found numerous contusions and lacerations upon different parts of the body. Its respiration, at first very rapid, soon

became more tranquil, and although so emaciated, it cried with some vigour, and very readily partook of food. Its temperature was normal. Any change of position called forth screams, due evidently to the pain from the various excoriations of the surface. It continued until the 25th to take nourishment; but the sores on the surface put on an ill character, and aphthae forming in its mouth, it became more and more emaciated, and died on the 29th. On the examination of the body, a considerable softening of the mucous membrane of the stomach and alimentary canal was observed.

It seems almost incredible that life should have been prolonged during the exposure of this naked infant without food for three days and nights, the temperature of the air varying from 55° to 80° Fahr. Probably its close quarters within the tree protected it in some measure from cold; but the deprivation of food ought, according to the generally received opinions, to have proved fatal before the period of its having been discovered. Foderé states that danger to life occurs after 24 hours; and Most, that the infant can fast for from 1 to 2 days only; but all practitioners must be familiar with cases in which the child refuses the breast for a longer period than this, the privation being unaccompanied, however, then with the depressing operation of a low temperature, and hence less dangerous. (We once saw a premature infant exist for a whole month in a semi-inanimate state, without its ever being certain that any of the few spoonfuls of milk that could be retained in its mouth were ever swallowed at last.)

28. *New Sign that a Child has been born alive.*—Dr. Virchow has announced that the presence of uric acid in the kidney, which may be detected with the naked eye, is conclusive of a child having been born alive. His conclusions are—

1. That uric acid deposit is never found in children born dead, or who have died within forty-eight hours after birth.
2. That the deposit does not occur before forty-eight hours after birth.
3. That it is not generally found later than the twentieth day after birth.

### § V.—*Death from Starvation.*

The Rev. Mr. OSBORNE, the well-known correspondent of the "Times," (S. G. O.), has just published a very remarkable volume, entitled: "Gleanings in the West of Ireland,"\* containing strange revelations of the famine year, and the various inquests then held on cases of death by starvation, from which the following extract is taken.

29. *Physical Phenomena of Death from Starvation.*—To those who have had experience in the matter, says Mr. Osborne, there is no mistaking "Famine Cases." I do not know how this case may be in other climes, with other races, but I can vouch for the fact, from my own experiences last year, and on the present occasion, that starvation in Ireland has its own distinct external physical phenomena.

In grown-up persons, besides an amount of attenuation which seems to have absorbed all appearance of flesh or muscle, and to have left the bones of the frame barely covered with some covering, which has but little semblance to anything we should esteem to be flesh; the skin of all the limbs assumes a peculiar character, it is rough to the touch, very dry, and did it not hang in places in loose folds, would be more of the nature of parchment than anything else with which I can compare it; the eyes are much sunk into the head, and have a peculiar dull, painful look; the shoulder bones are thrown up so high, that the column of the neck seems to have sunk, as it were, into the chest; the face and head, from the wasting of the flesh, and the prominence of the bones, have a skull-like appearance; the hair is very thin upon the head; there is over the countenance a sort of pallor, quite distinct from that which utter decline of physical power generally gives in those many diseases in which

\* T. W. Boone, New Bond Street, London, 1850.

life still continues, after the almost entire consumption of the muscular parts of the body.

In the case of the starved young—and we saw many hundreds—there are two or three most peculiar characteristic marks, which distinguish them from the victims of other mortal ills; the hair on the starved child's head becomes very thin, often leaves the head in patches, what there is of it stands up from the head; over the whole brow, in very many instances; over the temples, in almost all, a thick sort of downy hair grows, sometimes so thickly as to be quite palpable to the touch. The skin over the chest bones and upper part of the stomach is stretched so tight, that every angle and curve of the sternum and ribs stand out in relief; no words can describe the appearance of the arms; from below the elbow the two bones (the radius and ulnæ) seem to be stripped of every atom of flesh; if you take hold of the loose skin within the elbow joint, and lift the arm by it, it comes away in a large thin fold, as though you had lifted one side of a long narrow bag, in which some loose bones had been placed; if you place the fore fingers of your hand under the chin, in the angle of the jaw-bone, you find the whole base of the mouth, so to speak, so thin, that you could easily conceive it possible, with a very slight pressure, thus to force the tongue into the roof of the mouth; between the fingers there are sores; very often there is anasarca swelling of the ankles; in the majority of famine cases, there is either dysentery or chronic diarrhoea. There is one comfort to be found in these sad cases, there does not appear to be great present pain. I have now walked in the course of my two tours, I should suppose, some miles of Infirmary wards in the Union Houses in Ireland; wards often very thickly crowded, almost always sufficiently full. It has never been my lot to hear one single child, suffering from famine or dysentery, utter a moan of pain. I have seen many in the very act of death, still not a tear, not a cry. I have scarcely ever seen one endeavour to change his or her position. I have never heard one ask for food, for water, for anything; two, three, or four in a bed, there they lie and die, *if suffering, still ever silent, unmoved*. The death, however, of the adult is often of a very different character. I will give a description of it nearly in the words of one, whose position, and *opportunity of observation*, has been great. "Men often come into the workhouse in the *last stage of famine*. I have seen them," he said, "after they have been in the house some little while, of a sudden assume a sort of talkative cheerfulness; they will sit up in bed, talk of their coming recovery, and their hope, in a week or two, to go again on out-relief; whilst thus talking, and eating between their sentences, they will fall down dead." He added, "The doctor has sometimes said to me, as he has stood by, if you wait a quarter of an hour you will see that man (pointing to one of these cases) die." Such cases have not met my own eye; but I can easily believe them, for I have again and again had proof, that men will hold out to the last on insufficient food, and then having made up their minds to go to the Union, they have walked miles straight to it, and died, before they could eat their first meal after their admission.

No one has yet, I believe, been able to explain why it is that men and boys sink sooner under famine than the other sex; still, so it is, go where you will, every officer will tell you it is so. In the same workhouse, in which you will find the girls and women looking well, you will find the men and boys in a state of the *lowest physical depression*; equal care in every way being bestowed on both sexes.

### § VI.—Persons found Dead.

30. *Death from Suffocation and from Syncope, and on Vital and Post-mortem Burning.*—We have received a very interesting Essay on these subjects, by Dr. Wright of Birmingham, suggested, as stated in the title, by the case of the alleged Bridgenorth matricide.

"It happened to myself," says Dr. Wright in his preface, "in conjunction with my colleague, Mr. Bolton, to be summoned on the part of the Crown at the trial of Mercy Catherine Newton, to give testimony, based upon the evidence of the surgeons who had examined the body of the woman supposed to have been

murdered. The internal appearances of any note, were stated to be:—marked congestion of the brain; excessive congestion of the lungs, which were unusually dark, and spumous whenever incised; and complete engorgement of the right cavities of the heart, with black, semi-coagulated blood. Externally, there were signs of burning, variously severe, over a considerable portion of the trunk, limbs, and face; in some places, these were simply scorched brown, in others burnt to blackness; but in no part whatever could the least trace of redness be detected. There was a small blister, containing what was suspected to be serum, on the inner side of the right leg, about four inches above the ankle; but neither around nor beneath this blister was there the slightest mark of redness.

"The body was discovered lying in an out-house, a few yards from the kitchen door, and was supposed to have been dead some two or three hours. The burning had occurred in the kitchen.

"The medico-legal questions involved were, What was the cause of death? and, Were the burns vital, or post-mortem?

"It having been affirmed, that the deceased was in her usual good health three or four hours prior to the finding of her remains, I expressed my belief that she had died of suffocation, and that the burning was post-mortem. In this opinion, Mr. Belten entirely agreed."

We subjoin an analysis of four of the sections of Dr. Wright's treatise; a treatise which must always hereafter form a valuable reference in any medico-legal trial, involving the questions discussed in its pages.

31. *Morbid appearances after Death from Suffocation.*—Suffocation is the result of arrested respiration. It may occur in a variety of ways, as by hanging, drowning, spasm, and oedema of the glottis, impaction of a foreign body therein, spasm of the muscles, of the chest, &c. But whatever the cause of it the phenomena are pretty much the same, and the post-mortem appearances little dissimilar. These *united* appearances do not materially correspond with those which indicate death from any other cause than suffocation. They chiefly consist in fullness of the vessels of the brain; congestion of the lungs, which are much darker than usual; turgid; pouring out frothy blood when incised; and complete engorgement of the right cavities of the heart. Of these several conditions, the last is the most constant and obvious. I have invariably remarked it in the instances, not few, of examining bodies that have died of one or other form of suffocation.

From personal experience—not inconsiderable upon the subject—from conversation and correspondence with professional friends and acquaintance, of large opportunity and ability; and from a consultation of the best authors, both ancient and modern, I am neither able to furnish an exception to what I have stated, as the post-mortem aspects in death from suffocation, nor to say that these can indicate death from any other cause.

32. *Does Poisoning by the Gaseous products of Combustion, leave morbid appearances resembling those occasioned by Suffocation?*—The chief gaseous products of ordinary combustion are, carburetted hydrogen and carbonic acid. These gases act, *positively*, as poisons, when respired; and not *negatively*, because of the absence of free oxygen. The post-mortem appearances after poisoning by the former, bear no similitude whatever to those resulting from suffocation. In one case, quoted by Christison, the blood was unusually florid, even in the right side of the heart; and in another, there was "scarlet redness of the lungs." Taylor, in referring to the same cases, (Ann. d'Hyg., Jan. 1842,) says, that "the whole surface of the brain was intensely red." In two cases of poisoning by this gas, recorded by Mr. Teale, there was a "light florid colour of the muscles; absence of all indications of venous congestion; fluidity of the blood; florid colour of the blood, which approached more nearly to the colour of arterial than of venous blood." In a series of experiments, illustrative of the physiological action of poisonous gases, which I made some years ago, I invariably found the following appearances, after death, from the inhalation of carburetted hydrogen. Joints flaccid; eye bright, and somewhat prominent; inner surface of skin and super-

facial muscles paler than natural; large veins in the abdominal and thoracic regions full of bright-red blood; all the cavities of the heart filled with blood of the same colour; lungs slightly collapsed, and marked with red and whitish patches; trachea and bronchi containing a little frothy mucus, and their membrane occasionally, but not frequently, streaked with vascular lines; brain pinkish upon its surface, and its vessels moderately filled with florid blood. In some cases, the blood coagulated imperfectly; in others not at all. In poisoning by carbonic acid, the morbid appearances bear some resemblance to those occasioned by suffocation; but the similitude is not actual, and its exceptions are numerous. The post-mortem aspect generally indicates that the brain has been the organ chiefly affected. Its membranes are usually injected—its vessels always turgid; its substance studded with spots of blood wherever incised; and not unfrequently is there extravasation upon its surface, or effusion within its ventricles, or at its base. Comparatively with the heart and lungs, the brain is most implicated in poisoning by carbonic acid; in suffocation, the converse obtains. The *mechanical* act of respiration is, perhaps, not secondary to the process of oxygenation, in aiding the passage of blood through the lungs. In suffocation, this act is suspended; whilst in poisoning by carbonic acid, it continues until death. Hence, though in both cases the lungs are equally dark, in the former they are much more congested, and more spumous when incised, than in the latter. For the same reason, we usually find all the cavities of the heart moderately full of black, fluid blood, after carbonic acid poisoning; but after suffocation, the right cavities *only* are *distended* with this fluid: the left cavities are generally empty, or, at most, contain but little blood. Though the results of my own experiments and observations lead me to the conclusion, that the indications are sufficiently obvious and precise to enable us, in the majority of cases, to distinguish between poisoning by carbonic acid and suffocation; yet, knowing how certain acknowledged pathological conditions are liable to vary, I should assuredly let this fact restrain me from the expression of an absolute opinion on the subject in point, did it involve a question of criminal responsibility.

33. *Is vital burning, in a healthy subject, ever unattended with marks of redness?*—The term redness is not here intended to signify the blush of *inflammation* consecutive of burning. Vital burns, wanting this blush, are not unfrequent; for, in some instances, the sufferers die too soon for the occurrence of inflammatory reaction; and in others, though life may be more prolonged, the patients do not rally sufficiently from the first shock, for the opportunity of a definite inflammatory process. The word redness is simply meant to apply to that peculiar congestive coloration which we meet with beneath the blister or beneath the crust of a burn; and to that line, usually encircling a dead-white one, which forms the external boundary of a vital burn, and has its outer margin either abruptly defined and terminated, or gradually shaded off until its colour is lost in that of the natural skin. Of course an opinion upon this subject can only be given consistently with individual experience. In fact, it can but be simply the result of personal observation. As far as my own applies, and it has not been inconsiderable in this department of pathology, it is against the occurrence of vital burning, in a subject otherwise healthy, without lines or patches of redness. I have seen scores of cases of vital burning, and have examined them with as much interest as anxiety, but not one of them furnished an exception to what I have stated. Of course, the observations here made are intended to apply only to the vital burning of a *healthy subject*. I can readily imagine burning to occur in certain states of disease, or even of vital depression, and the special characteristics I have mentioned to be altogether wanting. I have known the actual cautery applied on each side of the spine, for nearly its entire length, in a case of paralysis, without occasioning any redness, either immediately or subsequently. It is not improbable that the subject of this treatment might have been singed from head to foot, without any red lines or patches being the result of it.

34. *Can a Blister be produced by post-mortem Burning?*—Dr. CHRISTISON performed some interesting experiments in reference to post-mortem burning. He found that when boiling water is poured upon a body ten minutes after death, the skin is merely shrivelled and rumpled; but the cuticle does not become raised into a blister. At a longer period than ten minutes, the same effects have been observed, while the body retained its warmth. Dr. Christison, on one occasion, had an opportunity of trying the experiment, on the same subject, before and after death; this was in the case of a young man, who had poisoned himself with opium. While he was lying in a hopeless state of coma, four hours before death, a hot iron was held on the outside of the hip-joint; and half an hour after death, a red-hot poker was applied to three places on the inside of the arm. Vesication followed the burns in both instances; but those caused during life contained serum, and those formed after death, air. On the whole, Dr. Christison thinks that a vesication containing serum indicates a vital, and one containing air a post-mortem burn. Taylor says, "I have performed many experiments on the bodies of infants eighteen and twenty-four hours after death, both with boiling water and heated solids, but in no case have I observed any kind of vesication to follow at that period. The skin became shrivelled, and was partly destroyed by the heat, but there were no blisters produced. It has been ascertained, that under certain morbid states of the body, blisters containing serum may be produced in the dead subject, even twenty-four hours after death." M. Leuret observed, that this took place in an anasarctous subject, in the vicinity of which a heated brazier had been placed. The cuticle became hardened, then raised and blistered; and the blister contained an abundance of reddish coloured serum. In repeating this experiment on other dead bodies, not infiltrated, it was observed that no vesications containing serum were produced.

Though the Results of my Experiments tell me that the production of a post-mortem serous blister is no impossibility, yet, *ceteris paribus*, it is dependent entirely upon the amount of organic life remaining in the body admitted to be dead, in the ordinary sense. Or it may be stated, in other words, to depend upon the nature of the death of the body experimented upon. If the process of dying shall have been protracted, and the body cold before death, or marked by any of the other features of collapse, the raising of a post-mortem serous blister is altogether out of the question. I have tried the experiment in a number of instances, in some, ten minutes after death, but only a gaseous blister was produced. The production of a post-mortem serous blister is simply a measurement of the amount of organic life remaining in a body otherwise dead. Where this remnant physiological condition most abounds, the facilities for serous blistering are the greatest. It continues longer and more largely after suffocation than after any other form of violent death.

35. *Rapid Decomposition of the Human Body.*—Dr. ALFRED SWAINE TAYLOR has published an important essay on this subject in the "Medical Gazette" of January 4, 1850. (See also "Monthly Journal," March 1850.)

After giving an account of a case which occurred last October in Guy's Hospital, in which the body had arrived at a most loathsome stage of decomposition within sixteen hours after the patient's death, he introduces the following remarks regarding the causes of rapid putrefaction, and the inferences to be drawn from similar post-mortem phenomena:—

"The cause of this rapid access of putrefaction in the body of an individual dying in the prime of life, and at a season of the year when the process is considered to be slow in its appearance, may be assigned to two circumstances:—1. To its having been exposed soon after death to an atmosphere at about the temperature of 65°; and, 2. To a morbid or diseased condition of the solids and fluids of the body, which may have rendered them more readily susceptible of chemical changes. The intemperate habits of this man, and the excessive quantity of alcoholic liquors which he drank, may have tended to produce changes in the condition of the blood and fluids which would render them easily liable to decomposition (other circumstances being favourable) so soon as the breath had left the body. The exposure to the temperature of 65° ceased when

the body was removed from the ward—i. e. in less than ten hours after death—but putrefaction had then already commenced; and it is well known that when this process has once begun, it continues to spread with great rapidity, even when the conditions of exposure subsequently are less favourable to its continuance.

“In this case the whole history is known; but in regard to the bodies of persons found murdered, the facts which are necessary to form a correct judgment cannot, of course, be ascertained. Let us suppose that a body in such a state had been found buried beneath the floor of a room, and a medical man had been asked to assign the period of death—he might, from common experience in such matters, have declared it to be impossible that the body could have been living within *twenty-four hours* of the time of its discovery; and suspicion might be thus removed from persons really guilty of murder, because it could perhaps be clearly proved that they had not been in or near the premises until within a day of the discovery of the body. An innocent person seen in company with the deceased five or six days before, might, on the other hand, be unjustly suspected of having been accessory to his death.

“This supposed case is not taken for the purpose of throwing doubt upon medical opinions, but to suggest great caution in forming them.”

# INDEX TO NO. XIII.

|  | PAGE |
|--|------|
| Abdomen, physical examination of . . . . .   | 71   |
| signs of solid tumours . . . . .   | 77   |
| Abscess of the spleen . . . . .  | 80   |
| mammary, treated by collodion . . . . .  | 124  |
| Acid, sulphuric, poisoning by injection into the rectum . . . . .                        | 290  |
| hydrocyanic, poisoning by—recovery . . . . .   | 292  |
| evidence of poisoning by . . . . .   | 294  |
| ACTON, Mr., notice of his work on Diseases of the Generative Organs . . . . .            | 233  |
| on blennorrhagic ophthalmia . . . . .  | 241  |
| ADAMS, Dr., on dislocation of the knee . . . . .   | 93   |
| ADAMS, JOHN, Esq., on the causes of ununited fracture . . . . .                          | 108  |
| ANCELL, Mr., on tuberculosis . . . . .   | 189  |
| Aneurism of the internal carotid . . . . .   | 225  |
| popliteal, spontaneous cure of . . . . .   | 121  |
| treatment by compression . . . . .   | 221  |
| Amputation, statistics of . . . . .  | 241  |
| Ankle-joint, peculiar injury to . . . . .  | 139  |
| Antrum, spontaneous collapse of . . . . .  | 141  |
| Aphonia, inhalation of stimulating vapour in . . . . .                                   | 45   |
| Apoplexy and paralysis, threatenings of . . . . .  | 196  |
| ARAN, M., on progressive muscular atrophy . . . . .                                      | 24   |
| on the topical use of chloroform in rheumatism . . . . .                                 | 193  |
| on chloroform in lead colic . . . . .  | 213  |
| on anæsthesia in midwifery . . . . .   | 245  |
| Arcus senilis, and fatty diseases of the heart . . . . .                                 | 207  |
| Arsenious acid, poisoning by . . . . .   | 279  |
| magnesia as an antidote . . . . .  | 280  |
| symptoms unusually delayed . . . . .   | 281  |
| Arsenical poisoning, morbid anatomy of . . . . .   | 283  |
| Artery, internal mammary, wound of . . . . .   | 307  |
| carotid, aneurism of . . . . .   | 225  |
| Asthma, differential diagnosis of . . . . .  | 45   |
| Atrophy, muscular . . . . .  | 24   |
| BATTERSBY, Dr., on chronic hydrocephalus . . . . .                                       | 277  |
| Belladonna, alleged poisoning by . . . . .   | 296  |
| BELLINI, Dr., case of poisoning by mushrooms . . . . .                                   | 298  |
| BENEKE, Dr., on extractum carnis . . . . .   | 86   |
| BENNETT, Dr. HENRY, on inflammation of the os and cervix uteri . . . . .                 | 251  |
| BENNET, Dr. HUGHES, extracts from a clinical lecture on the nervous system, by . . . . . | 30   |
| on the Pathology of cerebral and spinal softenings . . . . .                             | 41   |
| clinical remarks by, on auscultation . . . . .   | 47   |
| BERGSON, Dr., on the diagnosis of asthma . . . . .                                       | 45   |
| BERRY, Mr., case of sudden death after delivery . . . . .                                | 163  |
| BEVAN, Dr., on fracture of the neck of the femur . . . . .                               | 98   |
| BIRD, Dr. GELDING, his work on Urinary Deposits . . . . .                                | 215  |



|  | PAGE    |
|--|---------|
| Birth, live, new sign of . . . . .   | 311     |
| BIRD, Dr. JAMES, on rheumatism in the tropics . . . . .  | 190     |
| Bladder, state of in fever . . . . .   | 196     |
| Blood, disintegration of . . . . .   | 188     |
| BIGLOW, Dr., on the treatment of hernia by injection . . . . .                                   | 120     |
| Bowels, obstruction of . . . . .   | 78, 213 |
| from a leaden bullet—case . . . . .  | 112     |
| Bromine, poisoning from . . . . .  | 284     |
| Bronchitis, plastic . . . . .  | 201     |
| Bronchocele, treatment by compression . . . . .  | 123     |
| BROWN, S. D., Esq., on diphtheritis . . . . .  | 68      |
| BURD, Dr., on turpentine in purpura . . . . .  | 88      |
| BURNE, Dr., on obstruction of the bowels . . . . .   | 213     |
| Burns, treatment of, by white paint . . . . .  | 126     |
| post-mortem . . . . .  | 315     |
| Bursæ, diagnosis of enlarged . . . . .   | 96      |
| treatment of . . . . .   | 117     |
| BUSH, Professor, case of aneurism of the internal carotid . . . . .                              | 225     |
| BUTCHER, R., Esq., on dislocation of the clavicle under the acromion . . . . .                   | 138     |
| Caesarian section . . . . .  | 272     |
| Cancer of the lung . . . . .   | 201     |
| CANTON, Mr., on the co-existence of the atherosclerosis and fatty disease of the heart . . . . . | 207     |
| Carbon as a general antidote . . . . .   | 302     |
| CARNOCHAN, Dr., notice of his work on disease of the hip-joint . . . . .                         | 225     |
| Catalepsy, diagnosis of . . . . .  | 39      |
| Cayenne pepper, poisoning by . . . . .   | 299     |
| Cerebral disease, symptoms and lesions, association of . . . . .                                 | 197     |
| premonitory signs of . . . . .   | 26      |
| and spinal softening, pathology of . . . . .   | 41      |
| tumours . . . . .  | 198     |
| CHIPPENDALE, Mr., on gonorrhœa . . . . .   | 113     |
| Chloroform, in lead colic . . . . .  | 213     |
| Chlorosis, action of metals in . . . . .   | 189     |
| Chronic hydrocephalus . . . . .  | 277     |
| CLEGG, Mr., case of arsenical poisoning . . . . .  | 281     |
| Cod-liver oil, in gaol cachexia . . . . .  | 87      |
| Coffee and caffeine . . . . .  | 91      |
| COLLES, Mr., treatment of aneurism by compression . . . . .                                      | 222     |
| Collyria, remarks on . . . . .   | 127     |
| CONDIE, Dr., on coup de soleil . . . . .   | 41      |
| COOPER, Mr. WHITE, on spontaneous collapse of the antrum . . . . .                               | 141     |
| CORMACK and OLDHAM, Drs., on pregnancy, etc. . . . .   | 260     |
| CORNISH, Mr., case of ovariectomy . . . . .  | 255     |
| case of arsenical poisoning . . . . .  | 279     |
| COTTON, Dr., notice of book by . . . . .   | 201     |
| COULSON, Mr., on enlarged bursæ . . . . .  | 96      |
| on the treatment of ditto . . . . .  | 117     |
| Coup de soleil . . . . .   | 41      |
| Creasote in diarrhœa . . . . .   | 90      |
| CROMPTON, Mr., on the statistics of ununited fracture . . . . .                                  | 242     |
| CUMMING, Dr. G. V., case of obstruction of the bowels . . . . .                                  | 112     |
| DALRYMPLE, Mr., notice of fasciculus 7 of his work . . . . .                                     | 241     |
| Darnel grass, poisoning by . . . . .   | 298     |
| Delirium tremens, state of the urine in . . . . .  | 198     |
| Delivery, sudden death after . . . . .   | 163     |
| DEVAY, Dr., on the premonitory signs of cerebral disease . . . . .                               | 26      |
| Diarrhœa, creasote in . . . . .  | 90      |

|  | PAGE |
|--|------|
| DIDAY, M., on some errors in diagnosis . . . . .   | 95   |
| Digitalis, poisoning by . . . . .  | 295  |
| Diphtheritis . . . . .   | 68   |
| Dislocation of the knee . . . . .  | 93   |
| of the femur, easy mode of reducing . . . . .  | 137  |
| of the clavicle under the acromion . . . . .   | 138  |
| DUNCAN, Dr. MARTIN, on tuberculous disease of the kidney . . . . .   | 215  |
| DWIGHT, Dr., on the treatment of bronchocele by compression . . . . .  | 123  |
| Dysentery . . . . .  | 215  |
| Dysmenorrhœa . . . . .   | 251  |
| Dystocia from twins joined by the breast . . . . .   | 265  |
| EDWARDS, Dr. SAMUEL, on dysmenorrhœa . . . . .   | 251  |
| Electro-magnetism . . . . .  | 220  |
| Epilepsy and epileptoid affections . . . . .   | 38   |
| EVANS, Dr. U. S., treatment of mammary abscess by collodion . . . . .  | 124  |
| Exanthem, new . . . . .  | 17   |
| Exanthematic relationship . . . . .  | 195  |
| Extractum carnis . . . . .   | 86   |
| Favus, on the fungus of . . . . .  | 84   |
| FEARNSIDE, Dr., on disease of the pancreas . . . . .   | 69   |
| FERGUSSON, Dr., case of uterine hæmorrhage thirteen days after labour . . . . .                                | 162  |
| Fever, peculiar type of . . . . .  | 20   |
| state of the bladder in . . . . .  | 196  |
| scarlet, prophylaxis of . . . . .  | 196  |
| Fingers, on an operation for congenital contraction of . . . . .   | 119  |
| Fistula in ano, in a child . . . . .   | 139  |
| FOSTER, Mr., case of fistula in ano, in a child three and a half years old . . . . .                           | ib.  |
| Fox, Mr., case of arsenical poisoning . . . . .  | 281  |
| Fracture, intracapsular, of the neck of the femur . . . . .  | 98   |
| of the fibula, diagnosis of . . . . .  | 99   |
| of the outer condyle of the humerus . . . . .  | 101  |
| ununited, causes of . . . . .  | 108  |
| statistics of . . . . .  | 242  |
| Ganglion, instrument for the puncture of . . . . .   | 136  |
| GROGHEGAN, Dr., on the morbid anatomy of arsenical poisoning . . . . .   | 233  |
| Gonorrhœa, Mr. CHIPPENDALE on . . . . .  | 113  |
| Mr. ACTON on . . . . .   | 277  |
| GRANTHAM, JOHN, Esq., on the effects of concussion of the spine . . . . .                                      | 109  |
| GRAVES, Dr., on the spontaneous formation of poison in the human body . . . . .                                | 25   |
| GRAY, Dr. JAMES, case of complicated parturition . . . . .   | 166  |
| GRIFFITH, Dr. S., on the fungus of favus . . . . .   | 84   |
| GROSS, Dr., on the treatment of burns, by white paint . . . . .  | 126  |
| GROWSE, R., Esq., on the diagnosis of functional and organic disease of the heart in anæmic subjects . . . . . | 60   |
| Hæmorrhage, uterine, thirteen days after delivery . . . . .  | 162  |
| secondary, after delivery . . . . .  | 265  |
| HALL, Dr. MARSHALL, on epilepsy and epileptoid affections . . . . .  | 38   |
| Dr. A., on tartar emetic in rigidity of the os uteri . . . . .   | 166  |
| Heart, fatty disease of the, connection with the aërous senilis . . . . .                                      | 207  |
| diagnosis of functional and organic disease of . . . . .   | 60   |
| extracts from Dr. ORMEROD's lectures on . . . . .  | 62   |
| disease, physiognomy of . . . . .  | ib.  |
| chronic disease of—treatment . . . . .   | 63   |
| disease of right and left sides, comparison of . . . . .   | 207  |
| Hernia, operations without opening the sac . . . . .   | 114  |

|   | PAGE |
|---|------|
| Hernia, inguinal, treated by injection . . . . .                                  | 120  |
| reduction of, "en masse" . . . . .  | 233  |
| inguinal, new operation . . . . .   | ib.  |
| subcutaneous division of the stricture in . . . . .                               | ib.  |
| HEWETT, PRESCOTT, Esq., on the diagnosis of morbid growths from the jaw . . . . . | 94   |
| HIGGINBOTTOM, Mr., on nitrate of silver . . . . .                                 | 220  |
| Hip-joint disease . . . . .   | 225  |
| mechanism of . . . . .  | 229  |
| excision of . . . . .   | 230  |
| HOLDEN, Mr., on the mechanism of the hip-joint . . . . .                          | 229  |
| HORNER, Dr., on the treatment of lacerated perineum . . . . .                     | 166  |
| HUGHES, Dr. J. S., on stricture of the rectum . . . . .                           | 103  |
| HUNT, Mr., on syphilitic eruptions . . . . .                                      | 215  |
| Hydrocephalus acutus, treatment of . . . . .                                      | 168  |
| Hydrocyanic acid, poisoning by . . . . .  | 294  |
| Hydrophobia, cases of . . . . .   | 196  |
| Hysteria . . . . .  | 253  |
| Identity, personal . . . . .  | 308  |
| Infanticide . . . . .   | 310  |
| Infantile syphilis . . . . .  | 277  |
| INMAN, Dr., on the detection of the seminal fluid in the urine . . . . .          | 82   |
| Intra-uterine amputations, on the causes of . . . . .                             | 275  |
| JACOB, Dr., on collyria . . . . .   | 127  |
| on the purulent ophthalmia of infants . . . . .                                   | 132  |
| JAMES, Mr., on the statistics of amputations . . . . .                            | 241  |
| Jaw, diagnosis of morbid growths from the . . . . .                               | 94   |
| JENNETTE, Mr., on inflammations and abscess of the uterine appendages . . . . .   | 253  |
| JOHNSON, Dr. G., on fatty degeneration of the kidney . . . . .                    | 83   |
| JOHNSON, Dr., on a fatal case of rupture of a tumour . . . . .                    | 262  |
| Jugular vein, sloughing of, in scarlet fever . . . . .                            | 22   |
| KENNEDY, Dr. HENRY, on a functional affection of the spine resembling . . . . .   | 37   |
| organic disease . . . . .   | 168  |
| on the treatment of acute hydrocephalus . . . . .                                 | 90   |
| KESTEVEN, Mr., on creasote in diarrhœa . . . . .                                  | 198  |
| on cerebral tumours . . . . .   | 83   |
| Kidney, fatty degeneration of . . . . .   | 215  |
| tuberculous disease of . . . . .  | 199  |
| KIRKES, Dr., on the association of rheumatism and heart disease . . . . .         | 206  |
| KIVISCH, Dr., theory of the heart's sounds . . . . .                              | 122  |
| Knee-joint, penetrating wound of . . . . .  | 193  |
| KNOX, Dr. ALEXANDER, on vaccination and revaccination . . . . .                   | 261  |
| Labour, liquor amnii in excess . . . . .  | 172  |
| Laryngismus stridulus . . . . .   | 80   |
| LAW, Dr. ROBERT, on abscess of the spleen evacuated through the lungs . . . . .   | 17   |
| LAYCOCK, Dr., on a new epidemic exanthem . . . . .                                | 213  |
| Lead colic, treatment of, by chloroform . . . . .                                 | 99   |
| Ligamentum patellæ, rupture of . . . . .  | 236  |
| LIZARS, Mr., on perineal section . . . . .  | 300  |
| LLOYD, Mr., case of poisoning by yew-berries . . . . .                            | 201  |
| M'DONNELL, Dr., on cancer of the lung . . . . .                                   | 238  |
| M'DUGAL, Mr., on spermatorrhœa, 2d Edition, notice of . . . . .                   | 20   |
| M'DOWELL, Dr., on a peculiar cerebro-spinal type of fever . . . . .               | 167  |
| M'PHERSON, Dr., on dysentery . . . . .  | 167  |
| MASFEN, C. B., Esq., successful case of transfusion . . . . .                     | 136  |
| MAUND, Mr., on a lanceolate director for the treatment of ganglion . . . . .      |      |

|  | PAGE |
|--|------|
| Menstruation, influence of climate on . . . . .                                | 248  |
| and diarrhoea, connection . . . . .  | 249  |
| MICHEA, M., on the urine in delirium tremens . . . . .                         | 198  |
| Midwifery, cases in, by Mr. COOPER, notice of . . . . .                        | 245  |
| anæsthesia in . . . . .  | ib.  |
| MILLER, Dr. ERENKZER, on the diagnosis of catalepsy . . . . .                  | 39   |
| on a case of infanticide . . . . .   | 310  |
| MONTGOMERY, Dr., case of intra-uterine polypus, successfully removed . . . . . | 156  |
| Mucous tubercles, treatment of . . . . .                                       | 236  |
| MURRAY, Sir J., on poisoning by Tinct. Ferri Murialis . . . . .                | 287  |
| Mushrooms, poisoning by . . . . .  | 298  |
| NAIRNE, Dr., case of chorea, by . . . . .                                      | 201  |
| NELIGAN, Dr., notice of his work on Medicines . . . . .                        | 219  |
| NELSON, Dr. DAVID, on the diagnostic value of pain in the head . . . . .       | 29   |
| Nervous system, functions of . . . . .   | 30   |
| laws which regulate diseased functions of . . . . .                            | 33   |
| Nitrate of silver, therapeutical uses of . . . . .                             | 220  |
| NORMAN Mr., case of gastrotomy in ovarian disease . . . . .                    | 257  |
| OLDHAM, Dr., case of Cæsarian section . . . . .                                | 273  |
| and CORMACK, Drs., on pregnancy, &c. . . . .                                   | 260  |
| Ophthalmia, treatment of in general . . . . .                                  | 130  |
| in infants . . . . .   | 132  |
| epidemic, in Tipperary . . . . .   | 238  |
| notice of Mr. Dalrymple's works on . . . . .                                   | 241  |
| blennorrhagic . . . . .  | ib.  |
| ORMEROD, Dr., lectures by, on diseases of the heart . . . . .                  | 62   |
| Os uteri, tartar emetic in rigidity of . . . . .                               | 166  |
| inflammation and ulceration of . . . . .                                       | 251  |
| Otorrhœa, scarlatinous, treatment of . . . . .                                 | 23   |
| OSBORNE, The Rev. (S. G. O.), on the signs of death from starvation . . . . .  | 311  |
| Ovarian disease, death from an unusual cause . . . . .                         | 255  |
| new mode of operating for . . . . .  | 259  |
| Ovariectomy, case by Mr. CORNISH . . . . .                                     | 255  |
| Mr. NORMAN . . . . .   | 257  |
| Oxalic acid, poisoning by . . . . .  | 291  |
| PAGET, Mr., treatment of aneurism by compression . . . . .                     | 224  |
| Pains in the head, diagnostic value of . . . . .                               | 29   |
| PANCOAST, Dr., on stimulating inhalation in aphonia . . . . .                  | 45   |
| on subcutaneous division of the stricture in inguinal . . . . .                | 233  |
| hernia . . . . .   | 69   |
| Pancreas, disease of . . . . .   | 166  |
| Parturition, case of complicated . . . . .                                     | 188  |
| PAXTON, Dr., on disintegration of the blood . . . . .                          | 236  |
| Perineal section, remarks on . . . . .   | 166  |
| Perineum, lacerated . . . . .  | 264  |
| ruptured . . . . .   | ib.  |
| central rupture of . . . . .   | 238  |
| PICKFORD, Dr., on spermatorrhœa . . . . .                                      | 260  |
| Pregnancy, signs of . . . . .  | ib.  |
| and malignant disease of the uterus . . . . .                                  | 25   |
| Poison, spontaneous formation of, in the human body . . . . .                  | 283  |
| Poisoning, arsenical . . . . .   | 284  |
| from bromine . . . . .   | 285  |
| zinc . . . . .   | 287  |
| tinct. ferri murialis . . . . .  | 288  |
| tartar emetic . . . . .  |      |

|   | PAGE     |
|---|----------|
| Poisoning from sulphuric acid in the rectum . . . . .                         | 290      |
| oxalic acid . . . . .   | 291      |
| hydrocyanic acid . . . . .  | 292      |
| digitalis . . . . .   | 295      |
| belladonna . . . . .  | 296      |
| mushrooms . . . . .   | 298      |
| Darnel grass . . . . .  | ib.      |
| cayenne pepper . . . . .  | 299      |
| sun-flower seeds . . . . .  | ib.      |
| yew-berries . . . . .   | 300      |
| carbonic acid . . . . .   | 301      |
| Polypus, intra-uterine . . . . .  | 156      |
| POLLOCK, Dr., case of poisoning by tartar emetic . . . . .                    | 288      |
| POWER, Dr. on a peculiar injury to the ankle-joint . . . . .                  | 139      |
| PROBART, Dr., on gangrene of the lungs . . . . .                              | 47       |
| Prolapsus ani, operations for . . . . .                                       | 134      |
| Pruritus ani, treatment of . . . . .  | 85       |
| Pulse, indications of, in cardiac disease . . . . .                           | 53       |
| intermittent . . . . .  | 58       |
| Puerperal fever . . . . .   | 270      |
| contagion . . . . .   | ib.      |
| Putrefaction, rapid . . . . .   | 315      |
| Quintuple birth . . . . .   | 264      |
| Rectum, stricture of . . . . .  | 103, 125 |
| contused and lacerated wound of . . . . .                                     | 110      |
| occlusion of the, operation . . . . .   | 233      |
| REDFERN, Dr., on the diagnosis of tumours of the neck . . . . .               | 100      |
| Rheumatism in the tropics . . . . .   | 191      |
| terebinthinate vapour-baths in . . . . .                                      | 193      |
| topical use of chloroform in . . . . .  | ib.      |
| and heart-disease . . . . .   | 198      |
| RITCHIE, Dr., on the treatment of chronic disease of the heart . . . . .      | 63       |
| comparison between disease of the right and left sides of the heart . . . . . | 207      |
| ROBERTSON, Mr., on the signs of pregnancy . . . . .                           | 260      |
| notice of his work on the "Physiology and Diseases of Women" . . . . .        | 245      |
| on hysteria . . . . .   | 253      |
| fourteen cases on secondary hæmorrhage after delivery . . . . .               | 270      |
| Rupture of the uterus . . . . .   | 271      |
| ROSE, CALLEB, Esq., on cod-liver oil in gaol cachexia . . . . .               | 87       |
| SANDWICH, Dr., on plastic bronchitis . . . . .                                | 201      |
| SANTESSON, Dr., on the hip-joint . . . . .                                    | 228      |
| Scarlatina, sloughing of the internal jugular vein in . . . . .               | 22       |
| treatment of the otorrhœa of . . . . .  | 23       |
| belladonna in . . . . .   | 196      |
| Scarlatinoid rash after delivery . . . . .                                    | 264      |
| SCHÖPP-MEREL, Dr., on laryngismus stridulus . . . . .                         | 172      |
| on the general convulsions of children . . . . .                              | 177      |
| Secondary hæmorrhage after delivery . . . . .                                 | 265      |
| Seminal fluid, detection of, in the urine . . . . .                           | 82       |
| BERLO, Dr., case of quintuple birth . . . . .                                 | 264      |
| SEXES, on the causes which operate on the proportion of . . . . .             | 275      |
| SIMPSON, Professor, on the diagnosis of uterine diseases . . . . .            | 142      |
| Skin diseases, muriate of lime in . . . . .                                   | 86       |
| Smallpox, abortive treatment of by collodion . . . . .                        | ib.      |
| after vaccination, cases . . . . .  | 196      |

|  | PAGE |
|--|------|
| SNARE, Mr., poisoning by cayenne pepper . . . . .                            | 299  |
| SNELL, Dr., case of poisoning by bromine . . . . .                           | 284  |
| "Southern Medical Reports," notice of . . . . .                              | 188  |
| Spine, functional disease of, resembling organic lesion . . . . .            | 37   |
| effects of concussion of . . . . .   | 109  |
| Starvation, signs of . . . . .   | 311  |
| STRATTON, Dr., case of poisoning by chloride of zinc . . . . .               | 287  |
| Strychnia, detection of . . . . .  | 295  |
| Sunflower seed, poisoning by . . . . .                                       | 299  |
| SYME, Mr., on a spontaneous cure of popliteal aneurism . . . . .             | 121  |
| Syphilitic eruptions, diagnosis and treatment of . . . . .                   | 215  |
| TARDIEU, M., on personal identity . . . . .                                  | 308  |
| Tartar emetic, poisoning by . . . . .  | 288  |
| TAYLOR, Mr. JAMES, case of poisoning by yew-berries . . . . .                | 300  |
| TAYLOR, Dr. SWAINE, on rapid putrefaction . . . . .                          | 315  |
| Thrombus . . . . .   | 261  |
| TILT, Dr., on the connection of diarrhoea and menstruation . . . . .         | 249  |
| on the management of females during and after the cessation                  |      |
| of the menses . . . . .  | 250  |
| Tinctura ferri muriatis, poisoning by . . . . .                              | 287  |
| Tongue, origin of the coatings of . . . . .                                  | 211  |
| Transactions of the American Medical Association, notice of . . . . .        | 188  |
| of the Provincial Medical and Surgical Association, notice                   |      |
| of . . . . .   | ib.  |
| Transfusion, successful case of . . . . .                                    | 167  |
| TUFFNELL, Wm., on the treatment of aneurism by compression . . . . .         | 221  |
| Tumours of the neck, diagnosis of . . . . .                                  | 100  |
| rupture of, fatal case . . . . .   | 262  |
| Turpentine in purpura . . . . .  | 88   |
| TUSON, W., Esq., on a contused and lacerated wound of the rectum . . . . .   | 110  |
| Urethritis, strumous . . . . .   | 102  |
| Urinary deposits, notice of Dr. BRAD'S work on . . . . .                     | 215  |
| Uterine appendages, inflammation and abscess of . . . . .                    | 253  |
| Uterus, diagnosis of diseases of . . . . .                                   | 142  |
| means of physical diagnosis in diseases of . . . . .                         | 155  |
| polypus of, successfully removed . . . . .                                   | 156  |
| imperforate . . . . .  | 158  |
| rupture of . . . . .   | 271  |
| Vaccination, existing state of knowledge on . . . . .                        | 193  |
| Vagina, imperforate . . . . .  | 158  |
| remarks on . . . . .   | 159  |
| VELPEAU, M., on treatment of aneurism by compression . . . . .               | 223  |
| Vertebrae, cervical, injury to, case of . . . . .                            | 105  |
| Volvulus, cured by gastrotomy . . . . .                                      | 140  |
| WALTON, Mr. HAYNES, on excision of the hip-joint . . . . .                   | 230  |
| WEBSTER, Dr., case of smallpox the third time after vaccination . . . . .    | 196  |
| WEGG, Dr., notice of a book by, on the art and science of medicine . . . . . | 187  |
| WELLS, Dr. EDWARD, on the treatment of obstruction in the bowels . . . . .   | 78   |
| WILD, Mr., on the epidemic ophthalmia . . . . .                              | 238  |
| WILLIAMS, Dr. C. J. B., on the physical examination of the abdomen . . . . . | 71   |
| on the palpable signs of solid tumour in . . . . .                           | 77   |
| WILMOT, Dr. SAMUEL, on strumous urethritis . . . . .                         | 102  |
| WILSON, Mr., on a new mode of operating on ovarian tumours . . . . .         | 259  |
| Wounds, in reference to their mortality . . . . .                            | 306  |
| of the internal mammary artery . . . . .                                     | 307  |

|   | PAGE |
|---|------|
| WRIGHT, Dr. W., on the evidences of poisoning by hydrocyanic acid | 294  |
| (Birmingham), on death from suffocation, and post-mortem burning  | 312  |
| Yew-berries, poisoning by   | 300  |
| Zinc, poisoning by  | 286  |
| chloride of, poisoning by   | 287  |

END OF NO. XIII.

HALF-YEARLY ABSTRACT  
OF THE  
MEDICAL SCIENCES.  
JULY—DECEMBER,  
1851.



## CHANGE OF TERMS.

Under the NEW POSTAGE LAW, this work cannot be sent by mail unless the postage on it is PREPAID. The terms, therefore, to MAIL subscribers will hereafter be \$2 per annum, or \$1 per number; it will, however, be sold from the counters of the various book and periodical sellers throughout the United States at \$1 50 per annum, or 75 cents per number, as heretofore. Mail subscribers who have remitted but \$1 50 for the present volume, must remit the additional 50 cents in order to receive No. XIV., and those persons who have paid \$1 50 for XII. and XIII., leaving 75 cents only for the present number, should remit 25 cents, being the amount of postage paid on it by the subscribers in Philadelphia. Either of the above sums can be remitted in Post-Office stamps.

LINDSAY & BLAKISTON, *Publishers.*

## NOTICE TO CORRESPONDENTS.

---

*The Editor requests that all communications be forwarded (free) either to MR. CHURCHILL, Princes street, Soho, London, or to himself, addressed "DR. RANKING, Norwich."*

*The Editor is compelled to remind his American correspondents that no parcels are taken in unless the entire charge be paid upon them.*

*The attention of our Publisher has been called to the want of punctuality in our exchanges with the New York Journal of Medicine.*

*The suggestions of M. D. have been attended to, as far as practicable.*

THE  
HALF-YEARLY ABSTRACT  
OF THE  
MEDICAL SCIENCES:

BEING

A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL  
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED  
IN THE PRECEDING SIX MONTHS.

TOGETHER WITH

A SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND THE  
COLLATERAL SCIENCES DURING THE SAME PERIOD.

EDITED BY

W. H. RANKING, M.D., CANTAB.,

PHYSICIAN TO THE NORFOLK AND NORWICH HOSPITAL.

*Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcensitis. comportatis. —CICERO.*

NO. XIV.

JULY—DECEMBER, 1851.

PHILADELPHIA:  
LINDSAY AND BLAKISTON.

1852.

# LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE "HALF-YEARLY ABSTRACT."

## BRITISH.

*British and Foreign Medico-Chirurgical Review.*  
*Medico-Chirurgical Transactions.*  
*Edinburgh Medical and Surgical Journal.*  
*London and Edinburgh Monthly Journal.*  
*London Journal of Medicine.*  
*Journal of Psychological Medicine.*  
*Dublin Quarterly Journal of the Medical Sciences.*  
*Lancet.*  
*Medical Gazette.*  
*Provincial Medical Journal.*  
*Medical Times.*  
*Dublin Medical Press.*  
*Bell's Pharmaceutical Journal.*  
*Guy's Hospital Reports.*  
*Chemical Gazette.*

## AMERICAN.

*American Journal of the Medical Sciences.*  
*Philadelphia Medical Examiner.*  
*New York Journal of Medicine.*  
*Boston Medical and Surgical Journal.*  
*Southern Medical and Surgical Journal.*  
*British American Journal of the Medical Sciences.*  
*American Journal of Insanity.*

## FRENCH.

*Annales de Chirurgie.*  
*" d'Hygiène.*  
*" de Chimie et de Pharmacie.*  
*" des Maladies de la Peau.*  
*" Thérapeutique.*  
*Archives Générales de Médecine.*  
*Bulletin des Académies.*  
*Encyclographie Médicale.*  
*" des Sciences Médicales.*  
*Journal des Connaissances Médico-Chirurgicales.*  
*Gazette des Hôpitaux.*  
*" Médicale.*  
*Journal de Chirurgie de M. Malgaigne.*  
*Revue Médicale.*  
*Journal de Chimie et de Pharmacie.*

## GERMAN.

*Schmidt's Jahrbücher.*  
*Zeitschrift für de Gesammte Medicin.*  
*Müller's Archiv für Anatomie, &c.*  
*Liebig's Annalen der Chemie und Pharmacie.*  
*Canstatt's Jahresbericht.*  
*Buchner's Repertorium.*  
*Haller's Archives für Physiolog. und Patholog. Chemie.*  
*Casper's Wochenschrift.*  
*Poggendorf's Annalen.*

N. B.—Every periodical here specified is consulted *directly* by the Editor and his Coadjutors.

## CONTENTS OF NO. XIV.

### PART I.—PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

#### SECT. I.—*Diseases of the Nervous System.*

| ART.   | PAGE |
|--|------|
| 1. On the Pathology of some Affections of the Ear which induce Cerebral Diseases.<br>By Joseph Toynbee, Esq., F.R.S. | 17   |
| 2. Case of Epileptic Coma. By H. Tanner, M.D.  | 18   |
| 3. Epilepsy—Treatment by Tracheotomy. By Mr. Cane  | 21   |
| 4. Differential Diagnosis of the different kinds of General Paralysis. By W. Brierre<br>de Boismont                  | 21   |
| 5. Colchicum in the Cerebral Complications of Scarlatina. By Dr. Hughes Bennett                                      | 22   |
| 6. On the Value of Local Treatment in Traumatic Tetanus. By Mr. Eddowes  | 23   |
| 7. Treatment of Tetanus by Chloroform Frictions  | 24   |
| 8. Obstinate Sciatica cured by Inoculation with Morphia. By C. Brackett, M.D.  | ib.  |

#### SECT. II.—*Diseases of the Respiratory System.*

|  |    |
|--|----|
| 9. Observations on the Form and Movements of the Chest in Phthisis. By Richard<br>Payne Cotton, M.D. | 24 |
| 10. Remarks on the Pathology of Phthisis Pulmonalis. By Dr. S. T. Spear                              | 27 |
| 11. On the Early Signs of Phthisis Pulmonalis. By Dr. S. T. Spear                                    | 31 |
| 12. On Cod-Liver Oil in Phthisis. By Dr. Walshe  | 37 |
| 13. On Acute Capillary Bronchitis. By T. B. Peacock, M.D.  | 38 |
| 14. On the Nature and Treatment of Hay Fever. By F. W. Mackenzie, M.D.                               | 42 |
| 15. On Putrefactive Disease of the Lungs as a Sequel of Pulmonary Apoplexy. By<br>H. Fearnside, Esq. | 45 |
| 16. Rules for Bleeding in Pneumonia  | 47 |
| 17. Treatment of Aphonia by Stimulating Inhalations. By Dr. Pancoast                                 | 47 |
| 18. Symptoms of the Growth of Mediastinal Tumours. By Dr. Burrows                                    | 48 |

#### SECT. III.—*Diseases of the Circulatory System.*

|  |    |
|--|----|
| 19. On Angina Pectoris. By James Kirk, Esq.                              | 49 |
| 20. Diagnostic Rules with Regard to Cyanosis. By Dr. Norman Chevers      | 51 |
| 21. On some Complications of Cardiac Disease. By Edward L. Ormerod, M.D. | 52 |

#### SECT. IV.—*Diseases of the Chylopoietic System.*

|   |    |
|---|----|
| 23. On Dilatation of the Stomach and Sarcinae Ventriculi. By R. B. Todd, M.D.   | 58 |
| 24. On the Uses of the Neutral Sulphites in Disease of the Stomach connected with<br>Sarcina Ventriculi. By W. Jenner, M.D. | 62 |
| 25. Remarks on the Regurgitating Disease. By Sir H. Marsh, M. D.  | 63 |
| 26. On Fatty Discharges from the Bowels in connection with Disease of the Pancreas.<br>By Alfred Clark, Esq.                | 65 |
| 27. Case of Obstruction of the Bowels—Treatment by Electro-Magnetism. By Dr.<br>Charlton                                    | 68 |

SECT. V.—*Diseases of the Genito-Urinary System.*

| ART.   | PAGE |
|--|------|
| 28. On Hæmaturia. By Dr. G. O. Rees . . . . .  | 69   |
| 29. On Alkaline Urine. By Dr. G. O. Rees . . . . .   | 73   |
| 30. On Chronic Vomiting as symptomatic of Diseases of the Kidneys. By Cathcart<br>Lees, M.D. . . . . | 79   |
| 31. Treatment of Albuminuria. By Dr. Osborne . . . . .   | 80   |

SECT. VI.—*Diseases of the Skin and Cellular Tissue.*

|  |     |
|--|-----|
| 32. On the Pathology of Lepra and other Scaly Diseases of the Skin. By R. B.<br>Todd, M.D. . . . . | 81  |
| 33. Galium Aparine in Lepra. By Dr. Winn . . . . .   | 82  |
| 34. Treatment of Eczema Impetiginodes. By Dr. James Begbie . . . . .                               | 83  |
| 35. Ichthyosis successfully treated by Cod-Liver Oil. By Dr. Banks . . . . .                       | 84  |
| 36. Erysipelas, Treatment of, by Muriated Tincture of Iron. By Hamilton Bell, Esq. . . . .         | ib. |
| 37. Treatment of Lupus in the Parisian Hospitals. By James Begbie, M.D. . . . .                    | ib. |
| 38. Economic Formula for the Treatment of Scabies . . . . .  | 86  |
| 39. On a Peculiar Condition of the Integuments connected with Anasarca. By Mr.<br>Nunn . . . . .   | ib. |

## PART II.—SURGERY.

SECT. I.—*Symptomatology and Diagnosis of Surgical Diseases.*

|   |     |
|---|-----|
| 40. On the Microscope and Exploring Needle as a means of Diagnosis in Surgery. By<br>Professor Syme . . . . . | 88  |
| 41. On Hysterical Affections of the Hip-joint. By Mr. Coulson . . . . .                                       | 89  |
| 42. On the Position of the Limb in Diseases of the Hip-joint. By Holmes Coote, Esq. . . . .                   | ib. |
| 43. On Pus in the Urine; its Diagnostic Value. By J. Hamilton, Esq. . . . .                                   | 91  |
| 44. Spontaneous Luxation of the Shoulder-joint. By M. Hannon . . . . .  | ib. |

SECT. II.—*Nature and Causes of Surgical Diseases.*

|  |     |
|--|-----|
| 45. On Epithelial Cancer. By G. Murray Humphry, Esq. . . . .   | 92  |
| 46. On the Nature and Causes of Genu Valgum. By Professor Bock . . . . .   | 96  |
| 47. On Gouty Inflammation of the Ear. By W. Harvey, Esq. . . . .   | 102 |
| 48. On Lesion of the Kidney. By John Hener, Esq. . . . .   | 103 |
| 49. On some Effects of the Use of the Bougie in Stricture. By Dr. Wilmot . . . . .   | 105 |
| 50. On Permanent Involuntary Contraction of the Muscles; with a simple Mode of<br>Treatment. By Samuel Smith, Esq. . . . . | 107 |

SECT. III.—*Nature and Treatment of Surgical Diseases.*

|   |     |
|---|-----|
| 51. On the Treatment of Stricture by External Incision. By Professor Syme . . . . .                     | 108 |
| 52. Treatment after the Operation for Hernia. By R. Quain, Esq. . . . .                                 | 112 |
| 53. Aphorisms on the Treatment of Wounds and Injuries of the Abdomen. By G. J.<br>Guthrie, Esq. . . . . | 113 |
| 54. Treatment of Internal Hemorrhoids . . . . .   | 116 |
| 55. Treatment of Internal Strangulation of the Intestines. By R. Robinson, Esq. . . . .                 | ib. |
| 56. On the best Mode of performing Amputation at the Hip-joint. By Dr. Van Buren . . . . .              | 120 |
| 57. On Excision of the Pelvic Extremities of the Femur. By Dr. R. Knox . . . . .                        | 121 |
| 58. On the Treatment of Dislocation of the Sternal End of the Clavicle. By John<br>Milton, Esq. . . . . | 123 |
| 59. Unconsolidated Fracture of the Thigh successfully treated by Acupuncture. By<br>M. Lenoir . . . . . | 125 |

| ART.   | PAGE |
|--|------|
| 60. Excision of the Astragalus successfully performed . . . . .  | 126  |
| 61. Removal of the Os Calcis for Necrosis . . . . .  | 127  |
| 62. Ununited Fracture treated after Dieffenbach's Plan. By R. Stanley, Esq. . . . .                            | 129  |
| 63. Treatment of Chordee. By John Milton, Esq. . . . .   | 131  |
| 64. New Plan of reducing Paraphimosis. By M. Mercier . . . . .   | ib.  |
| 65. On the Relief of impassable Stricture of the Rectum by Artificial Openings. By T. B. Curling, Esq. . . . . | 132  |

SECT. IV.—*New Surgical Appliances.*

|  |     |
|--|-----|
| 66. New Splint. By Dr Mullar . . . . .                               | 132 |
| 67. New Apparatus for Fractured Clavicle. By Henry Lee, Esq. . . . . | 133 |
| 68. Improved Circular Tourniquet. By F. Bulley, Esq. . . . .         | 133 |
| 69. Sling Fracture-Bed. By T. M. Greenhow, Esq. . . . .              | ib. |

SECT. V.—*Rare Surgical Cases.*

|  |     |
|--|-----|
| 70. Remarkable Accident to the Wrist-joint . . . . .   | 136 |
| 71. Case of Undetected Injury to the Brain. By George Anderson, Esq. . . . .                 | 138 |
| 72. Dislocation of the Femur directly backward. By Dr. Horner . . . . .                      | 140 |
| 73. Case of Obturator Hernia successfully relieved by Operation. By Henry Obré, Esq. . . . . | 141 |
| 74. Extirpation of a Voluminous Bronchocele. By M. Roux . . . . .                            | ib. |

PART III.—MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—*Midwifery and Diseases of Women.*

|  |     |
|--|-----|
| 75. On Ovarian Irritation. By Fleetwood Churchill, M. D. . . . .   | 143 |
| 76. On Irritable Uterus. By F. W. Mackenzie, M. D. . . . .   | 145 |
| 77. On Sanguineous Pelvic Tumours in Females. By M. Nélaton . . . . .  | 148 |
| 78. On the Round Ligaments of the Uterus. By M. Rau . . . . .  | ib. |
| 79. On Retention of the Catamenia. By Dr. Marchand . . . . .   | 149 |
| 80. On Bandaging the Abdomen after Delivery. By Mr. Kesteven . . . . .   | 150 |
| 81. On Fissure and Laceration of the Perineum and Cervix Uteri in Natural Labour. By Professor Simpson . . . . . | 152 |
| 82. Separation of the Entire Circumference of the Cervix Uteri in Labour . . . . .                               | 153 |
| 83. Remarks on the Cæsarian Section—Craniotomy—and Induction of Premature Labour. By Dr. Radford . . . . .       | 154 |
| 84. On the Pathology and Treatment of Puerperal Insanity. By F. W. Mackenzie, M. D. . . . .                      | 157 |
| 85. On Relaxation of the Symphyses of the Pelvis. By M. Martin . . . . .   | 162 |
| 86. On the Operation for Vesico-Vaginal Fistula. By Dr. Hayward . . . . .  | ib. |
| 87. On Cod-liver Oil in Nursing Sore-mouth. By Dr. John Evans . . . . .  | 163 |
| 88. New Forceps for the Removal of Uterine Polypi. By M. O'Grady, M. D. . . . .                                  | 164 |

SECT. II.—*Diseases of Children.*

|  |     |
|--|-----|
| 89. Memoranda on the Auscultation of Infants. By Dr. Merei . . . . .                               | 165 |
| 90. On the Alvine Discharges of Children. By Dr. Merei . . . . .                                   | 166 |
| 91. On a Variety of Infantile Coma. By Herbert Barker, M. D. . . . .                               | 169 |
| 92. Successful Treatment of Croup by Cauterization of the Larynx. By Dr. Townshend . . . . .       | 170 |
| 93. On Various Modes of treating Whooping-Cough. By Dr. Pavesi . . . . .                           | ib. |
| 94. Diagnosis between Infantile Remittent Fever and Hydrocephalus. By Charles Taylor, Esq. . . . . | 172 |
| 95. Treatment of Infantile Remittent Fever. By Charles Taylor, Esq. . . . .                        | 173 |

## REPORTS.

| ART.   | PAGE |
|--|------|
| 1. Report on Practical Medicine, Pathology, and Therapeutics . . . . . | 179  |
| 2. Report on the Progress of Surgery . . . . .                         | 220  |
| 3. Report on Midwifery, &c. . . . .                                    | 225  |

---

|  |     |
|--|-----|
| Transactions of various Medical Societies in reference to Quackery . . . . . | 283 |
| List of Books received . . . . .   | 289 |
| Bibliographical Record . . . . .   | 290 |
| Index to No. XIV . . . . .   | 291 |

# ABSTRACT OF THE MEDICAL SCIENCES,

*ſc. ſc.*

---

## PART I. PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

---

### SECT. I.—DISEASES OF THE NERVOUS SYSTEM.

ART. 1.—*On the Pathology of some Affections of the Ear, which induce Cerebral Disease.* By JOSEPH TOYNBEE, Esq., F.R.S.

(Reported in the *Medical Times*, &c. &c.)

MR. TOYNBEE has presented a memoir to the Royal Medical and Chirurgical Society, in which he has endeavoured to specify the diseases of the ear which are liable to extend to the brain, as well as to show that each division of the internal aural apparatus has its particular division of the encephalon to which it communicates disease. He states, for instance, that—1. Affections of the external meatus and mastoid cells produce disease in the lateral sinus and cerebellum. 2. Affections of the tympanic cavity produce disease in the cerebrum. 3. Affections of the vestibule and cochlea produce disease in the medulla oblongata. In speaking of the external meatus, its intimate relations with the lateral sinus and cerebellum are pointed out; the affection most frequently producing disease in these parts is shown to be catarrhal inflammation of its dermoid layer, one of the numerous diseases which have hitherto been classed together under the term *otorrhœa*. This affection of the external meatus is fully described; and it is shown that it is found to endure during many years, without the presence of pain, or any other symptoms calculated to apprise the surgeon of the presence of a formidable disease, while the bone may be becoming slowly carious, and portions of the dura mater and cerebellum disorganized. In the second division of the paper, the tympanic cavity is described to be the part of the ear from which disease is most frequently propagated to the brain. This circumstance is accounted for, firstly, by the great liability of the mucous membrane of the tympanum to undergo pathological changes; and, secondly, by the existence of very intimate relations between this membrane and the dura mater. The affection of the tympanum which most frequently produces disease in the cerebrum is chronic catarrhal inflammation of the mucous membrane, an affection thus far only known as an *otorrhœa*. The four changes in the dura mater and cerebrum produced by the affections of the tympanum are—

1. Inflammation of the dura mater, and its separation from the surface of the petrous bone by serum.
2. Ulceration of the dura mater, and its complete detachment from the petrous bone.
3. An abscess in the substance of the cerebrum.



#### 4. Undefined suppuration of the substance of the cerebrum.

From a careful examination of cases, it appears that chronic catarrhal inflammation of the mucous membrane of the tympanum may exist as many as twenty or more years, without the production of any disease beyond it, or at least, without the existence of symptoms by means of which the presence of such disease can be diagnosed; nevertheless, in the great majority of cases vital structures become sensibly affected in a much shorter period. In a third section of the paper the author devotes some space to the consideration of the labyrinth, and it is shown that purulent matter in the vestibule or cochlea sometimes causes disease of the auditory nerve, which is transmitted to the medulla oblongata, producing suppurative inflammation of the meninges, and death, without the presence of any caries of the bone. In the course of this paper the author shows the necessity of abolishing the use of the term *otorrhœa*, and of using in its place the names of the several diseases, eight in number, of which a discharge from the ear is one of the symptoms. In conclusion, the facts which he is desirous of impressing upon the minds of medical men are, that the bone, dura mater, and substance of the brain may be slowly undergoing disorganization, without the presence of any other symptoms calculated to reveal to the medical man the existence of a formidable disease than the presence of a discharge from the external auditory meatus; and that, consequently, no person suffering from catarrhal inflammation of the dermoid layer of the meatus, the membrana tympani, or of the mucous membrane of the tympanum, can be assured that disease is not being prolonged to the temporal bone, the brain, and its membranes; and that any ordinary exciting cause, as an attack of fever or influenza, a blow on the head, &c., may not induce the appearance of acute symptoms, which, as a general rule, are speedily fatal.

ART. 2.—*Case of Epileptic Coma.* By H. TANNER, M.D., Physician to the Hospital for Women.

(*Medical Gazette*, Sept. 3, 1851.)

On Wednesday morning, September 17, 1851, at half-past eleven o'clock, Mr. Edwardes, surgeon, of Great Russell street, Covent-garden, was sent for to a public-house in the neighbourhood, to see a woman who was reported to be very ill. On making his visit he found the patient in a complete state of coma, and perceiving at once that the case was one of great danger, he desired a second opinion, and Dr. Tanner was sent for.

On the author's arrival with Mr. Edwardes, he found a young woman, about twenty-three years of age, lying in bed in a double-bedded room, in a state of perfect insensibility, from which it was impossible to rouse her. Her jaws were firmly clenched, so that he could not separate them; she was foaming slightly at the mouth, and her countenance became momentarily affected with slight convulsive twitchings. Her pupils were both equally dilated, and were insensible to the action of light; there was no squinting. Her head, chest, abdomen, &c., were well-formed, and free from stains, bruises, or marks of violence of any kind. No unnatural odour could be detected in her breath. On separating the labia, the mucous membrane of the vagina was seen pale and moist, but healthy; there was no hymen, and the general appearance of the parts led him to infer that the patient was not a virgin. The respirations were hurried, and performed with some difficulty and noise. The pulse was quick, compressible, and beating with some force. The heart was acting quickly and powerfully, and with great impulse; the systolic sound appeared less clear than natural, but there was no bellows sound. Both jugular veins were distended.

The sheet under her body was very wet, so that Dr. Tanner at first inferred that the urine escaped involuntarily. On placing his hand on the abdomen, however, he felt the bladder much distended, and on introducing a catheter, withdrew half a chamberpotful of urine. On examining the lower part of the abdomen, and upper part of the thighs, they appeared as if they had been recently well washed.

The temperature of the body and extremities was natural.

After much deliberation, the author determined to aid the diagnosis by a small venesection, being led moreover to infer, from the state of the pulse, the forcible action of the heart, and the condition of the jugular veins, that the loss of blood might give great relief. The left medium basilic vein was therefore opened, but only nine or ten ounces taken away, as the symptoms by no means improved, the pulse beginning to fail, and the respirations to become more hurried. Three drops of croton oil were then placed on the inner side of the lip, a blister applied to the nape of the neck, and an enema of castor oil and turpentine administered.

The history of this case is as follows:—On the previous day, this woman and a young man, with two other couples, left Cirencester by an excursion train to visit the Exhibition. After spending the day in Hyde Park, they all six dined together, at which meal the patient stated that she felt sick; but it excited very little notice, as it was known that she was not very strong. After dinner the party set out for the play, the woman having previously arranged to return to the coffee-house to sleep; but on reaching Wellington Street, in the Strand, the patient again complained of sickness, and consequently refused to enter the theatre, but proposed that she and her male companion should walk about until the end of the performances, and then rejoin the other four. After perambulating the streets for two or three hours, they went to the public-house in Bow Street, had one glass of brandy-and-water, and went to bed, the landlord imagining them to be man and wife; it happened, however, that the only unoccupied room had two beds in it. The young man states that he slept in one bed and the girl in the other, and repudiated with horror the suggestion that they slept together, or that any intercourse took place between them. In the morning, on rising, he spoke to his companion, who complained of being sleepy, and expressed a wish to remain longer in bed; he therefore left her, went out for a walk, and on his return found her still in bed, and unable to be roused. The landlady was called to her, who, becoming alarmed, sent for Mr. Edwardes.

8 o'clock, p. m.—A great alteration has taken place in the condition of this young woman since leaving her in the afternoon. She remains perfectly insensible; respiration more difficult, and almost stertorous; countenance of a cadaverous paleness, and the features constantly affected with convulsive movements. Pulse quick and feeble. Heart acting with the same degree of violence as before. About a pint of pale urine was withdrawn by the catheter; and as the bowels were unrelieved, and the previous injection retained, another enema of soap and water was administered. A large mustard poultice was also applied over the chest, &c.

The urine withdrawn on the first visit was found on examination to be pale, limpid, very acid, and having a sp. grav. of 1008; no deposit was produced by heat, nor on the addition of nitric acid, liquor potassæ, or liq. ammoniæ. By the microscope (420 diameters) nothing could be seen but a few free oil globules—of course derived from the grease of the catheter.

At half-past ten o'clock, p. m., this young woman died.

18th September.—*Sectio cadaveris post-mortem horis xvi.*—External appearance of the body natural, well-formed, and rather plump; no discolorations or marks of violence anywhere visible. No rigor mortis. On removing the calvarium, to which the dura mater adhered with much firmness, the sinuses of the brain appeared enlarged and somewhat congested, as did the large veins of the hemispheres on slitting up the membranes. On slicing off the hemispheres of the cerebrum, the puncta vasculosa did not appear more numerous than usual; the lateral ventricles were healthy, containing no serum; and, to be brief, every part of the cerebrum, cerebellum, and medulla oblongata, were carefully examined, and found firm and perfectly healthy. The upper half of the spinal cord was also found quite natural. The cavity of the mouth, the pharynx, larynx, &c., were healthy. In the thorax the posterior parts of the lungs were found congested, but not more so than was to be expected from the gravitation of the blood. The heart was natural in size; the cavities were healthy, as were their walls, excepting those of the left ventricle, which were hypertrophied, being about an inch thick. Nothing could be found to account for this condition, there

being no visible impediment to the free play of the heart, nor any physical obstruction to the flow of blood through it.

In the abdomen all the organs appeared perfectly healthy, but pale. The stomach and intestinal canal were natural; in the former was a little grumous fluid, which was removed for analysis. The body of the uterus was slightly enlarged, as was also its cavity, which was lined by a soft humid paste-like secretion, analogous to the membrana decidua. The ovaries were pale, and in the left were two or three large cysts; there was no appearance, however, of a corpus luteum. In removing the vagina in order to examine microscopically the mucus from its walls, the rectum was wounded, so that the object was defeated.

On a subsequent examination of some of the tissues, &c., microscopically, nothing abnormal could be discovered. The structure of the kidneys was natural. The muscular fibres of the heart were particularly examined, but with the same result; there was no fatty degeneration. The watery part of the blood appeared to be in excess, with a deficiency of red globules.

An inquest having been ordered, it became necessary to ascertain with certainty the absence of any poisonous agent, although there was no reason to suspect the presence of such. The author therefore first applied the tests for morphia and meconic acid to the contents of the stomach, but failed in obtaining any evidence which would lead to the supposition that opium had been administered. The blood was then examined for the purpose of detecting chloroform on the plan advocated by M. Rogsky, founded on the principle that when this agent is exposed to a red heat, it is decomposed into chlorine and hydrochloric acid. For this purpose a small bottle was half filled with blood, and stopped with a cork holding a curved tube, into which a piece of paper covered with paste and supporting some iodide of potassium, was introduced. A portion of the tube between the paper and the bottle was then heated by the spirit lamp, and the bottle placed in boiling water, but no appearances indicative of the presence of chloroform could be obtained. Had any been present, it would have become volatilized, and decomposed while traversing the heated part of the tube; when its chlorine, set free, would have decomposed the iodide of potassium; the iodine in its turn being set free, and acting upon the starch of the paste, producing the characteristic blue colour.

*Remarks.*—Dr. Tanner has thought this case worthy of record, not only on account of its presenting some interesting features in a medical point of view, but also because it may prove a not unimportant contribution to forensic medicine.

Looking at it in its relations to practical medicine, the author notices that several similar cases have been recorded by Dr. Abercrombie under the name of congestive or simple apoplexy, though, as shown by Dr. Todd in his admirable Lumsleian Lectures for 1850, they might with much more propriety be referred to a state of epileptic coma. This opinion is not invalidated by the fact that this girl had never previously had a fit of epilepsy, as Dr. Tanner imagines that the strong excitement under which she may so reasonably be supposed to have suffered, together with her weakened condition, were quite sufficient to develop such an attack. She was naturally of a weak constitution, and of a very excitable temperament; and it was for these reasons against the wish of her parents that she made the present excursion.

Dr. Tanner, however, mentions that it was not until the father came to London to attend the inquest, that it could be ascertained with any degree of certainty the previous state of this unfortunate girl's health; could he have done so, he would have blamed himself much more than he did for having practised venesection. He would particularly draw attention to the fact, that the loss of only nine or ten ounces of blood in this case did great harm, although he thinks and sincerely trusts that it did not materially influence, though it may have hastened, the result. He believes that, as regards the vast majority of cases of delirium and coma, the truth of Dr. Todd's assertion that they are non-inflammatory, is undeniable; and he thinks the present instance may be adduced as a proof of the justness of his observation, that "the employment of general or local blood-letting is a practice not to be justified by anything in the clinical history or the

morbid anatomy of these affections, unless, perhaps, in the truly inflammatory forms, or where some inflammatory complication may exist." Dr. Todd also remarks, "that bleeding tends to the production of that state of blood which is favourable to the development of the comatose or delirious states."

Of the great value of these statements Dr. Tanner has been long convinced, having seen many of the patients under Dr. Todd's care, the consideration of which has led him to these conclusions. The subject of this paper, therefore, would not have been bled, had he not have been misled by the forcible action of the heart, and the distension of the jugular veins. Looking at the girl's age, the absence of any morbid sound on auscultation, and the want of a decided contradiction of the heart by the pulse, it was thought that the steady uncontrollable impulse depended upon an excess of blood having to be urged onwards; the possibility of the existence of simple hypertrophy was never thought of.

### ART. 3.—*Epilepsy—Treatment by Tracheotomy.* By MR. CANE.

(*Lancet*, July 12, 1851.)

In his various lectures and other communications on spasmodic diseases, Dr. Marshall Hall has repeatedly expressed his opinion that closure of the glottis is a necessary element in the act of convulsion, and has suggested that if an opening were made in the trachea, the convulsion would cease. The justice of the surmise is admirably shown in the following case:—

Mr. Cane was summoned on February 1st, 1851, to the case of a boatman, aged 24, who had become subject to violent fits of epilepsy, one of which had just occurred in so extreme a form as to leave him in a state of deep apoplectic coma and asphyxia, inspiration being performed only "by seldom and short catches, whilst the veins of the head and neck were everywhere visible, and greatly distended." This state had continued nineteen hours. "Feeling convinced," Mr. Cane observes, "that the patient must shortly expire, and that the root of the evil was in the closure of the larynx, I at once proceeded to open the trachea, a matter of no small difficulty, on account of the twisted state of the neck, the engorged state of the vessels, and the constant action of the muscles." The operation of tracheotomy was performed, and the tracheal tube is kept in the trachea to the present time. The relief to the patient was immediate; the air passed into the lungs, the state of spasm subsided, with a turgid condition of the head and neck, and the patient soon recovered his sensibility. This was not the only gratifying result; although the poor man had experienced his epileptic seizures in increasing violence during seven or eight years, and recently thrice a week, he had, on April 1st, during two months, had no return of them. More recent accounts of the patient, who is now in Staffordshire, confirm the former report; the tube is still kept in the trachea, and the epileptic seizures have not recurred.

### ART. 4.—*Differential Diagnosis of the different kinds of general Paralysis, by the aid of Galvanism locally applied.* By M. BRIERRE DE BOISMONT.

(*Annales Médico-Psychologiques*, and *London Journal of Medicine*, June, 1851.)

The author thinks that there exist two species of general paralysis, which differ completely in their nature and their seat. The first species of these progressive paralytic cases, without alienation of mind, exhibits, as its essential character, a weakening, a diminution, and an abolition of irritability, more marked in proportion to the greater duration of the disease. This alteration may begin in a muscle, or in a limb, generally in the inferior extremities; then it attacks, successively, all parts, and reaches the tongue. In many cases, the autopsy made with the greatest care, has revealed no lesion in the brain or the spinal cord, in spite of the long duration of the disease. M. de Boismont cites the case of a lady in whom first the left upper extremity, then the lower, and, successively, those of the other side, lost their power. The fingers were contracted, and it became difficult for her to hold objects; walking was effected only

incompletely. The paralysis reached the tongue, and the patient pronounced, with slowness and hesitation, the words suggested by her mind. Sensibility was preserved, the intelligence was unimpaired; the disease lasted more than a year. The digestive functions were well performed; the urine and the fæces were under the patient's control. The electrical apparatus produced no contraction in the lower limbs. The tibialis anticus, the peronæi and the flexors, remained immovable under the influence of the current. This phenomenon was remarked in a less marked degree in the muscles of the superior limbs; the muscles of the trunk were feebly contracted. To this case another is added, of a patient who died under the care of M. Andral, with all the symptoms of general paralysis, without mental aberration, which had lasted for more than a year. In this case, irritability was completely annihilated, although he could still execute some movements. Consciousness remained unimpaired to the end. The autopsy, made with care under the superintendence of M. Andral, revealed no alteration, and a microscopical examination, made by M. Lebert, exhibited only a fatty deposition in some of the muscles of the thigh. The muscular fibre of the muscles of the leg, in which irritability was extinguished, showed no alteration. It was interesting to contrast these results with those furnished by the examination of the general progressive paralysis of the insane. M. Boismont and M. Duchene accordingly instituted experiments upon three paralytic insane patients, who were paralytic in different degrees. The first had only an intermittent stammering; the second was at the second period, but considerably emaciated; the third, who had been paralytic for several years, stood with difficulty, and was no longer able to answer questions. In all three, irritability existed in a marked degree. These experiments were repeated at the Bicêtre, and the patients were selected indiscriminately, among the most advanced cases, the most aged, and those who had kept their beds for several months. Irritability was ascertained to exist in the six cases examined, two of whom had arrived at a great degree of emaciation, and even of atrophy, especially in the inferior extremities. Almost all these patients passed their fæces and urine under them. It may therefore be advanced, as a constant circumstance, that in cases of general paralysis with mental alienation, there is preservation of irritability. M. de Boismont remarks that, with regard to the seat of general paralysis, it is impossible to admit that it can always be localized in the nervous centres. There are cases of this disease which depend upon the spinal cord: others, upon the great sympathetic. There are some which are *perispherical*, and several which are not connected with any appreciable lesion of the nervous centres; and there are a certain number of cases which depend upon disease of the brain.

#### ART. 5.—*Colchicum in the Cerebral Complications of Scarlatina.*

Dr. HUGHES BENNETT mentions the case of a boy, æt. 14, the subject of scarlatina. He was delirious, and constantly rolled the head from side to side. He was conscious when spoken to; the tongue was protruded with difficulty, dry, red, and studded with fluid elevations; bowels open; pulse 130, weak; urine scanty, not acted upon by heat and acid; eruption full and bright. He was ordered diuretics and salines. He continued in the same state, with delirium and coma, till the sixth day. He was now ordered—

Vin. Colchici, ℥ss;  
Sp. Æth. Nitrici, ℥ij;  
Potass. Acet., ℥ij;  
Aquæ, ℥ij.

*Dose.*—A teaspoonful every four hours.

On the following day all coma and delirium had disappeared. The pulse fell to 96; the urine increased in quantity, and was loaded with sediment consisting of membranous flakes and urate of ammonia. From this time the boy did well.

Dr. Bennett states, that he regarded the cerebral affection as depending on insufficient elimination of urea; and remembering the alleged influence of Colchi-

cum over this secretion, he gave it in combination with diuretics. The result was so speedy, that the question may naturally be asked whether the benefit was not due to a spontaneous crisis.

*Edinburgh Monthly Journal, August 1851.*

ART. 6.—*On the Value of Local Treatment in Traumatic Tetanus.*

By Mr. EDDOMES.

(*Medical Gazette, May 2, 1851.*)

[Mr. Eddomes narrates the case of a man in whom tetanic symptoms supervened upon a wound of the thumb with a packing needle. The symptoms came on three days after cicatrization. The treatment consisted in removing the cicatrix, and applying morphine to the wound. A blistered surface was also made in the opposite hand, which was also sprinkled with morphine. He stated that the spasms never became general, and that the stiffness of the jaws did not entirely subside till the eleventh day. The author appends the following remarks:]

There are many points of interest in this case, and I would wish to call attention to one or two of them.

1. *This man's symptoms first came on after the healing of the wound*,—a circumstance by no means unusual, though I am not aware that any reasons have been given why such should be the case. I think that one of Dr. M. Hall's experiments, showing that the extreme terminations of nerves possess the excitomotor power in a much higher degree than the trunk, will help us to furnish an explanation. "If" says he "after removing the head of a frog, we divide the integuments along the back, and raise them by means of the forceps, we observe the trunks of many cutaneous nerves. Now, if we irritate these trunks, no movements follow; but if we irritate the cutaneous texture on which they ramify, movements of a very energetic nature are produced." Now, in the healing process of a wound it must be evident that the extreme distributions of the cutaneous nerves would only be involved when that process was nearly or wholly completed. And may it not be the involving these, the more easily excited terminal branches, that is the starting point of the disease. Another point of interest in this case is—

2. *He had spasm of the wounded hand and arm as one of the earliest symptoms: it continued throughout, and at last was the only remnant of the disease.*—This condition is not a reflected one, but the result of disease in the reflex or motor nerve; while, on the other hand, the trismus, with the affection of the abdominal muscles and legs, are reflected, resulting from injury to an incident or excitator nerve. Had the spasm been a reflected action, we should have had the opposite extremity affected in a similar manner; and it would not have occurred till later in the disease. I merely mention this as being a curious and interesting circumstance, showing that the injury to a reflex nerve is more persistent, and less easily influenced by remedies, than an injury to an incident nerve.

3. *The treatment of traumatic tetanus.*—It is needless to say what a formidable and intractable disease it has always been found; but I believe that the ill success has in some measure resulted from not acting upon proper principles in the treatment. Look over the melancholy records of this affection, and what has been the treatment? Venesection, narcotics, antispasmodics, mercury, cold bath, warm bath, and a hundred other plans,—all given to affect the system generally; while the seat of irritation, the primum mobile of the disease, is entirely passed over, or receives only a secondary share of attention.

I would suggest that such plan of treatment is most unphilosophical, and that the treatment should begin at the seat of irritation, to allay which should be our first and most strenuous effort.

In conclusion, I would remark that, in the treatment of the present case, all I claim is, that it is simple and rational. Is it not simple to apply a soothing remedy to an irritated part? Is it not rational, when a morbid stimulus is transmitted from one extremity of the spinal cord, to be reflected on the system at large, to transmit a sedative influence to the spinal cord at the opposite extremity; a morbid stimulus from the left hand, and a sedative influence from the right, meeting at the same portion of the cord.

ART. 7.—*Treatment of Tetanus by Chloroform Frictions.*

[As another instance of the value of local treatment in tetanus, we may mention a case recorded in the 'Union Médicale,' by M. Morrisseau.]

A man, æt. 40, of sound constitution, wounded himself with an axe on the front of his leg. The wound healed on the fifth day, and the next day tetanic symptoms occurred.

The treatment adopted was friction with one drachm of chloroform over the limb, three times a day, and the patient was placed in an acidulated vapour bath. Next day an improvement had occurred; the patient perspired freely, and slept well; he was also able to swallow better, and the paroxysms were shorter and less violent. The dose of chloroform was augmented and persevered in for five days, when all tetanic symptoms had subsided.

*L'Union Médicale, and Prov. Med. and Surg. Journal.*

ART. 8.—*Obstinate Sciatica Cured by Inoculation with Morphia.*

By CHARLES BRACKETT, M.D.

(*North-Western Medical and Surgical Journal*, Sept. 1851.)

[Narcotic Inoculation in neuralgia was some time since proposed by Mr. Rhynd, and carried into effect by means of an instrument which he devised. The following seems to be a trustworthy case, and exhibits the benefits of the treatment in a very advantageous light:]

The patient, æt. 50, of a spare habit, but large and muscular frame, and active disposition, had suffered for the past ten or fifteen years with occasional rheumatic attacks, affecting generally his upper though often his lower extremities and back. The pain, and weakness in his back, and in the course of the sciatic nerve for the past two years, had been persistent, so that he needed the aid of a cane when walking; for the past few months he had been confined to his bed, suffering such pain as only the victim of neuralgia has a knowledge of. The author had tried most of the medicines which could give him relief, both in the form of internal and external medication; at length he concluded to try this plan of inoculation.

He began about the origin of the nerve, and inoculated with paste morphine and castor oil, about every four inches, down to his heel, which was as far as he felt any pain. That night he rested better than he had for a long time previously, the pain being entirely removed along the track of the inoculations; towards morning the pain attacked the anterior tibial nerve, where previously it had never existed, and where it became as acute as ever it had been on the posterior part of his leg. The author followed this pain up with scarifications, putting in as much of the paste as he dared do in from four to six punctures made with the point of a thumb-lancet at each place of inoculation. At this time he made the points of inoculation about three inches apart from the knee to the middle of the dorsal surface of the foot, so far as the pain existed; it ceased, and at his next visit it had appeared in the plantar nerves. He next scarified and inoculated the sole of his foot, and from that time till his death he never suffered from any pain about that leg.

## SECT. II.—DISEASES OF THE RESPIRATORY SYSTEM.

ART. 9.—*Observations on the Form and Movement of the Chest in Phthisis.*

By RICHARD PAYNE COTTON, M.D.

(*London Journal of Medicine*, July 1851.)

[An absence of symmetry in the thoracic parietes is generally considered a necessary sign of consumption; but the author, believing this to be a serious error, and likely to lead to mistakes in diagnosis, has recorded the following ob-

servations, commencing with remarks on the relation of the form of the chest to the development of consumption. He says:]

The form of the chest has little to do primarily with this disease, for it is equally common to see phthisis attack persons with well-proportioned chests, as those which are malformed in that respect. The life-guardsmen, the blacksmith, the pugilist are, *cæteris paribus*, as liable to the inroads of phthisis as the mechanic: the truth being, that in every instance the origin of the disease is not to be attributed to any peculiar configuration of chest, but to the circumstances under which such conformation has arisen; the impure atmosphere which has been breathed; the excesses which have been indulged in; or the inherited scrofulous taint. It is even questionable whether the practice of wearing stays has not been unjustly accused as a cause of phthisis in females. M. Louis considers popular belief on this subject as nothing more than matter of assertion, wholly unsupported by proof; and the very circumstance of consumption being so much more prevalent in London amongst males than females, might be fairly used as an argument against it. Without doubt, this habit, which fashion has so mistakenly inflicted upon women, has its penalties; but phthisis can scarcely be included in the list.

Continued observations upon phthisis in all its multiform characters, have led me to the following conclusion:—that the best-formed chests afford no security against the onset of the disease, whilst those which are comparatively ill-developed, or even deformed, do not appear, on that account, more liable to become the seat of tubercle.

[The author now passes on to some remarks upon the form of the thorax as influenced by phthisis in its commencement and progress; and gives a brief reference to the relationship existing between phthisis and tubercle. This we omit. He then continues:]

We will assume that the disease has fairly reached its *first* stage, and that the tubercular deposit is sufficiently abundant to interfere with the proper functions of the lung. In what manner is this exhibited by physical signs? Are the form and movements of the chest necessarily altered? These are questions which cannot be answered by an appeal to individual cases, on account of the well-known Protean character assumed by the disease, and are only to be met by continued observation upon such a scale as an hospital, like that at Brompton, can alone afford.

As a general rule, the form of the chest is unchanged, and the action of its two sides is symmetrical. In a few instances, there is a slight bulging over the diseased part, but, owing either to its rarity, or the shortness of its duration, it is not very often to be detected. Auscultation and percussion are now the sole guides to the condition of the lungs—points, however, upon which it is not my present object to enter.

I have always been aware that such a statement may be met by the very plausible argument, that directly the apex of a lung becomes tubercular, it must necessarily lose some of its capability of being expanded; and, as a natural consequence, the portion of the thoracic walls corresponding with the seat of the disease, must undergo a change in form, and be less movable than the opposite side. But I think it can be shown how it happens that, in most cases, neither of these alterations are immediately apparent, and that the chest may retain, for a time at least, its healthy form, as well as its long-accustomed habit of equal and simultaneous motion.

There are two ways by which it does so, viz.:—1. The movement of the healthy side becomes diminished to the same extent as the other, so that the ordinary breathing, instead of being partly costal, as we find it in health, is almost wholly abdominal. 2. The pulmonary cells in the immediate neighbourhood of the tubercular deposit become enlarged, and by increased capacity for air, compensate for those which are disabled.

The first is less common than the other, but its occurrence may be witnessed in certain cases (of which I have seen many examples), where, although it is evident from other signs that one lung only is affected with tubercle, the thoracic movement upon both sides is small but equal, except on very deep inspiration, when the diseased side is less raised than the other. The second may be seen



in the many cases of early phthisis, in which the respiratory sound upon the diseased side is actually louder than on the other, and in the still more numerous instances, in which the murmur at the tuberculous apex is scarcely audible in some points, and morbidly loud in others; both of which conditions must be familiar to every experienced auscultator. It is probable that the first takes place in cases where *milary* tubercle is scattered throughout the greater part of the lung's apex; and the second, where the tubercular deposit is in somewhat larger masses, and accumulated in particular spots.

The occasional bulging over the diseased part, first observed by Dr. Chambers, is yet additional testimony in favour of the second explanation; for when the portion of the chest so altered is percussed, it is often found to be more resonant than the healthy side, apparently in consequence of an extreme degree of enlargement of the pulmonary cells, amounting to emphysema.

But, after a time, which varies very much in different cases, circumstances are entirely changed; the diseased portion of lung *begins to contract*, and the thorax undergoes an alteration in form, not only in the region of the clavicles, but in its whole contour. M. Fournet referred this contraction to secondary pleurisy; Dr. Stokes has attributed it to atrophy of the lung; and Dr. Walshe has added to these, the contraction of plastic matter exuded into the pulmonary tissues. It is probable that these different causes are sometimes associated; but one or more of them must be present, before the form and action of the chest can be materially interfered with.

In the majority of phthisical cases, their effects begin to appear towards the middle or latter end of the first stage; but examples are sufficiently numerous of their being completely absent until softening has commenced.

I shall describe the several changes which are thus produced, as they are seen when in their extreme; premising that the greatest variety will be met with, both in the rapidity and extent of their development.

The vertebræ of the neck and back are inclined forwards, and the shoulders are rounded: the front of the chest is consequently contracted, and the stature of the body lessened, giving an awkwardness to the whole appearance, difficult to describe, but which any one accustomed to the external aspect of the disease, would at once refer to the *tubercular chest*. If the patient be looked down upon whilst he is sitting, two curves are distinctly visible; the one affecting the whole line of the cervical and dorsal vertebræ, the other crossing it, and formed by the two shoulders inclining forwards. A depression is visible beneath one or both clavicles, giving to these bones the appearance of prominence; and posteriorly, the supra-scapular region over the diseased part is more or less sunken inwards. During ordinary breathing, either there is no costal movement whatever at the upper part of the chest, or there is a difference in its extent upon the two sides; and, on forced respiration, instead of the peculiar *swelling* movement of the infra-clavicular regions which is so characteristic of health, either one side is elevated more than the other, or the entire chest is raised, as it were, in one mass, without being perceptibly increased in the antero-posterior diameter of its upper part. These latter changes are more conspicuous in females than in males, as the healthy respiration in our own sex is principally abdominal, whilst in females,—owing to the restriction of stays, or for reasons which the obstetrician is the best able to appreciate, there is greater freedom of movement in the upper ribs, and the breathing is, to a much greater extent, costal.

The loss of symmetry and healthy movement takes place simultaneously; so that, unless there is some depression in the clavicular or supra-scapular regions, there will be no diminution in the ordinary movements of these parts. M. Fournet was, I believe, the first who drew attention to this circumstance; and I have certainly never seen an exception to it.

The changes above described may occur at any period of phthisis, from that antecedent to softening, to that of large vomitæ; but they are very capricious guides to the actual stage of the disease; for persons with cavities in the lungs very often are less altered, in these respects, than others who have scarcely entered the second stage. The different amount of pulmonary contraction which must accompany different cases, will at once account for these varieties.

From the preceding observations, I think it must be evident that inspection and mensuration of the chest can seldom afford assistance in the diagnosis of *incipient* phthisis; although, as the disease advances, they may prove useful auxiliaries to other physical signs. But when it is remembered that a departure from strict symmetry is occasionally seen in healthy persons, as a consequence either of a congenital peculiarity, or of certain pursuits which influence the development of the thorax, it is obvious that much caution is always necessary in their employment.

ART. 10.—*Remarks on the Pathology of Phthisis Pulmonalis.*

By Dr. S. T. SPEER, Cheltenham.

(*Medical Gazette*, June 13, 1851.)

[The present remarks are introductory to an excellent paper on the early signs of phthisis pulmonalis, but as they are not only important, in a pathological point of view, but opposed also to the opinion of many of our best authors, we have given them in a separate article. The author observes:—]

Before, however, considering in detail the peculiar signification to be derived from such and such a sound heard in the lung at a period when the invasion of phthisis appears imminent, it may not be out of place briefly to consider in what the essence of the disease really consists, and whether its varied phenomena, physical and symptomatic, are one and all to be attributed to that which is so generally conceived to be its first and real cause—viz., the presence of tubercle in the lung. I confess that such is not my view of the pathology of pulmonary consumption in the widest acception of the term. That tubercles do exist in the large majority of cases, characterized by all the symptoms of the disease, is undeniable; that they are the *primum mobile*, or promoter of such symptoms, is, to say the least, extremely doubtful. I am, on the contrary, inclined rather to consider this affection as a scrofulous inflammation of the lung, and to attribute its symptoms to the ordinary results of this process, modified by the peculiar products, which, in the majority of cases, are the results of this peculiar form of inflammation.

It has been asserted by many writers (and more especially by some of the most eminent of the French pathologists) that in no case can tubercles be considered as the product of inflammation; and M. Louis, in his able work on Phthisis, has brought forward numerous examples to prove the fact. On careful consideration, however, of these cases, it would appear that he has merely proved that an ordinary inflammation, whether of the bronchial mucous membrane or of the pulmonary parenchyma, never tends to the deposition of tubercle. It is needless, however, to say that inflammation is not a process limited to one exact type; true, in its usual form, it proceeds generally to the formation of healthy pus, or organizable lymph; but, on the other hand, are not the rheumatic, the gouty, and the syphilitic inflammations, each marked by products of a different character, and by a variety in their symptomatic phenomena? and are we not, then, at liberty to assume that there exist certain conditions of the body of an inferior grade of vitality, with a tendency to a corresponding type of inflammation equally characterized by a similar grade of action, giving rise to the production of a deposit incapable of complete or further organization? Such appears to be the case as regards the deposition of tubercle in very many instances. Not but that, on the other hand, it may happen that this peculiar inflammation will sometimes go on to the destruction of the tissues involved by suppuration and disintegration, while after death no trace of tubercle can be discovered, but only that peculiar kind of product which, in other parts of the body, is denominated scrofulous pus.

Upon this point I may venture to quote the following apposite remarks from so eminent an authority as Dr. Graves. He says:—"The most important thing for the student to impress on his mind with regard to all cases of phthisis is, that the pectoral symptoms, of whatever nature they be, are caused by scrofulous inflammation. If you trace the phenomena of external scrofulous abscesses, you will be struck with the close analogy they bear in their manner of appearance,

their progress and termination, to the ulceration of the lungs. The same slowness; the same insidious latency; the same gradual solidification and gradual softening; the similarity of the puriform fluid secreted in each; the analogous occurrence of burrowing ulcers and fistulous openings; the close approximation in the form of their parietes, and the difficulty in healing remarked in both, make the resemblance between them extremely striking." Again, he says,—“I mentioned before that one of the first morbid changes we generally see arising from the scrofulous habit is the formation of tubercular matter. I have also alluded to another of these morbid changes—namely, the production of scrofulous pneumonia, in which we cannot detect the existence of a single tubercle. There is another process in which the scrofulous inflammation is seated in the bronchial mucous membrane. This latter form of phthisis is sometimes associated with phthisical pneumonia, but it often exists without it. Although in this disease the inflammation is seated in the bronchial mucous membrane, it differs very much from common bronchitis: its symptoms are different; it does not run the same course; and it is unlike common bronchitis in its termination and cure: its fever presents all the material phenomena of phthisis—emaciation, and frequently the same incurability; the same means tend to its aggravation or benefit, and the same scrofulous pus is secreted.”

Now, if we admit the existence of these different forms of scrofulous disease affecting the lung either separately or (what is more commonly the case) in conjunction,—namely, scrofulous inflammation leading to the deposition of tubercle; scrofulous inflammation (pneumonia), in which no trace of tubercle is found after death; and scrofulous bronchitis, in which a characteristic purulent fluid is found filling the tubes;—allowing, I say, these three forms to exist, and that either of them may, at its origin, prove to constitute the incipient stage of phthisis, we have then some clue to the diversity in those morbid physical phenomena which are collectively supposed to indicate the disease without specifying its peculiar form; for while the general symptoms may, in all probability, be nearly identical, it is obvious, from the different pathological conditions which must exist in these three varieties, that a corresponding difference in the physical signs must necessarily be present. Thus two cases, equally deserving of the term phthisis, as meaning a wasting away, with destructive disintegration of the pulmonary tissues, may, in reality, afford a difference in the progress and existence of such signs (more especially at their commencement) in no way to be accounted for but by the admission of a pathological difference in the morbid processes at work in the two cases.

The foregoing observations are made in the conviction that the disease called phthisis pulmonalis is in reality a scrofulous inflammation of the lung, that it is, in the large majority of cases, accompanied by the deposition of tubercles; but that in certain forms of the disease (especially in elderly persons) this is by no means invariable; and that when present, they are the product, and not the real cause of the disease; since all the characteristic symptoms of scrofulous inflammation are identical, whether true tubercle be thrown out or not—viz., low fever, quickened pulse, emaciation, hectic perspirations, diarrhœa. To be satisfied of this, we have but to compare a case of hip-joint disease in its progress from first to last with one of pulmonary consumption: the analogy will be indeed evident.

It is, however, true that sometimes the deposition of a considerable amount of tubercular deposit may take place in the lung, preceded merely by simple congestion or capillary hyperæmia,—a condition supposed to be always present by Vogel and by Engel; the latter, however, limiting the influence of inflammation to the production of infiltrated tubercle. May not, however, this deposition at so early a stage of the inflammatory action be merely a proof that there exists in persons of an eminently tubercular diathesis a step short of actual inflammation (viz., simple hyperæmia, sufficient in itself to provoke the deposition of tubercle from its blood-vessels, whilst in others the process must attain its ultimatum—the true inflammatory condition (of a scrofulous type)—before the characteristic deposit of such type becomes manifest?

Again: it is often alleged that the fact of tubercles (isolated or in masses) being not unfrequently found in the lungs of persons dying of other diseases, in whom

the parts occupied by these tubercles, and surrounding them, were to all appearance healthy, is a proof of their deposition being independent of any inflammatory process. I have myself frequently seen tubercles in the upper part of the lung, lying apparently inert surrounded by healthy tissue; no symptom of inflammatory degradation being appreciable; but the absence of such appearance by no means satisfied me that an early stage of inflammation—viz., hyperæmia—had not preceded the deposition; it rather goes to prove that tubercle does not produce of itself any change in the surrounding parts, and that the suppuration and disintegration of the pulmonary tissue found around it in cases of phthisis, are in no way a necessary consequence of irritation produced by the tubercle, and may exist totally independent of its presence.

The appearance of tubercle without any trace of inflammation in its vicinity is, as I said before, no proof of the absence of such process at the time of its deposition. In assigning inflammation, however, as the *avant courier* of these latent products, I allude simply to its most incipient stage—that of local excitement, with increased flow of blood, but without organic change; and consequently the absence of any indication of such process is explicable upon the following supposition:—That (in persons who, after death, presented evidence of latent inert tubercle), owing to a combination of depressing causes greatly lowering the vital powers, a condition of simple irritation or congestion was sufficient to give rise to the deposition of a certain amount of tubercular matter from the vessels of the congested part; and that these vessels, once freed from this material, and the predisposing causes giving rise to its formation in the blood having ceased; returned to their former condition without any advance in the morbid process, which, owing to a combination of circumstances, had at so early a period been sufficient to permit of its exit from the pulmonary capillaries. Should, however, its elimination require a process of a more advanced type for its accomplishment—viz., actual inflammation—we at once see how the peculiar symptoms of phthisis may become manifest. In the first instance the morbid action ceased upon the deposition of the tubercle; resolution took place, and the substance remained inert; in the second, the usual results of inflammation followed or accompanied such deposition—namely, suppuration and ulceration of a modified type, not, indeed, resulting from the presence of the tubercle, but from the fact that the process having now attained the inflammatory stage, the ordinary consequences of inflammation will of necessity occur, whether tubercle be thrown out or not: these consequences—the suppuration and ulceration, and not the tubercle—leading to the softening and destruction of the tissues in which the latter has been lodged.

Lastly, if tubercles are to be considered as the primary cause of the irritation, inflammation, and other symptoms which are presupposed to occur subsequent to its deposition, there is some difficulty in understanding why the lung, and especially its upper lobes, should be so peculiarly obnoxious to their existence; but if we allow a state of hyperæmia to have preceded their deposition, the difficulty is, in a great measure, removed; for, in the first place, it is only necessary to bear in mind the delicate structure of the lungs allowing the easy exudation of the *materies morbi* through the thin texture of its capillaries. The mass of blood which passes through them as compared with other organs; the chemical changes in that fluid which take place here, and here alone; the abundant formation of fibrin (of which tubercle is but an inferior form); and, to add to these conditions, the fact, that of the different organs in which tubercles are found, the lungs alone are subject to those external peculiarities of atmospheric vicissitudes so fertile in inducing an irritable congested state in tissues of so delicate a texture. Abrupt changes of temperature are universally allowed to favour the development of pulmonary affections, and more especially of phthisis, in persons predisposed to the disease; but surely it must be by the variety in the intensity of stimulus afforded to the pulmonary tissues, producing an excited irritable condition, and thus leading to the deposition of tubercle, rather than by any specific action possessed by such atmospheric influences in promoting its deposition, independent of a preliminary morbid process, however slight.

The above consideration may serve to explain the reason for tubercular mat-

ter being so generally found to preponderate in the lungs; its choice, however, of the upper lobes is more obscure.

Now, it is well known, that tubercle may be deposited with little, if any derangement in the circulation of the part; but when this does occur, the deposit assumes the form of crude yellow tubercle from the first, without having been preceded by the gray miliary induration, from which, in the majority of instances, it appears to have been formed. But this primary form of crude yellow tubercle, which appears to be so independent of any preliminary irritating process, is not that which is found to predominate in the upper lobes; it is the miliary tubercle and the gray induration which are so common in these parts of the lung in the earlier stages of phthisis; and these latter conditions being undoubtedly the result of a low grade of inflammation, the question is, not why the upper lobes should be so liable to this deposition, but why they should be more particularly so, to that species of inflammation which gives rise to it; since (notwithstanding the frequency of ordinary pneumonia of the lower lobes, and also of one form of bronchitis—the capillary) it is certain that the upper portion of the respiratory apparatus is far more liable to irritation, congestion, and inflammation of one kind or another.

In the first place, these upper lobes are the seat of a higher degree of activity in the respiratory process; the louder character of the murmurs is one indication of this; but this superior activity of function is also a sign of a corresponding activity in the circulation of these parts. This alone would render the upper lobes more keenly susceptible to the irritation of external stimuli, independent of the existence of a tubercular diathesis; but as this condition of the system has the effect of implanting a lower degree of vitality and proportionably diminished powers of reaction in all the tissues, it is plain that those of the upper pulmonary lobes must now be still more incapable of resisting with impunity the varied sources of irritation to which they are liable. Another reason tending to account for this susceptibility is found, I think, in the opinion of Broussais, that in these parts the bronchial tubes are shorter, and allow the external sources of irritation to arrive more readily at their termination. This argument certainly holds good with respect to the atmospheric air, if its temperature be low or variable, since owing to the shortness of the space which it has to traverse, it cannot have its temperature increased or assimilated to that of the surrounding parts, so readily as when it has to attain the more distant portions of lung. Again, in spite of the superior activity of the respiratory function in the upper lobes, it is in these that the least amount of assistance to the alternate expansion and contraction of the lung is afforded by the movement of the thoracic parietes, the deficiency requiring to be compensated for by an increased action in the lungs themselves; and that such an active condition of certain of the pulmonary tissues does occur, independent of the movements of the thorax, has, to my mind, been satisfactorily shown by the elaborate researches of Reissenen and others. Lastly, this diminished mobility may, according to Dr. Williams, act in another way; he says,—“The smaller capability of motion possessed by the upper lobes of the lung, may have a share in disposing them to become the seat of tubercular matter; not by permitting it to accumulate, but by favouring bronchial obstructions to the respiration, and causing local congestions of blood, which may promote the formation of tubercles.

[The following propositions serve to embody the views entertained by the author upon this subject:]

- 1st. That the tubercular and scrofulous diatheses are identical.
- 2d. That inflammation of the pulmonary substance is modified by this diathesis; its products being either scrofulous pus or what may be termed scrofulous lymph or tubercle; both these products being possessed of an inferior degree of organization.
- 3d. That in the great majority of instances, the earliest phase of phthisical disease is ushered in by local excitement of the air-vesicles and smaller air-tubes.
- 4th. That this local excitement differs essentially from the analogous condition existing at the commencement of an ordinary sthenic inflammation, in its gradual

supervention, its difficulty of recognition, and its slowness in passing into a more advanced stage.

5th. That all the symptoms of phthisis are the result of scrofulous inflammation of the lung, whether pus or tubercle be thrown out, or both.

6th. That, where the tubercular diathesis is very strongly marked, tubercle may be deposited, as the result of a very trifling amount of local irritation.

7th. That in a large number of cases it is not deposited till the morbid process has attained the true inflammatory stage.

8th. That the auscultatory signs of incipient phthisis may be divided into—1st, those which occur in cases where the tubercle is thrown out simultaneously with or subsequent to the local excitement; 2dly, those in which it is not deposited till the stage of excitement has become merged in actual inflammation of a specific character.

Lastly. That incipient phthisis may present all its characteristic symptoms before any tubercular matter has been hitherto eliminated.

ART. 11.—*On the Early Signs of Phthisis Pulmonalis.*

By Dr. S. T. SPEER, Cheltenham.

(*Medical Gazette*, June 13, 1851.)

[It will be seen in the preceding article that the author considers phthisis to be a scrofulous inflammation, with a deposit of tubercular instead of exudation matter. He therefore considers, that the first stage of the disease is not that in which the deposit has commenced, but that of the prior vascular excitement. With these views he says, in reference to the physical signs:—]

If an individual, then, presents himself having an hereditary well-marked strumous diathesis, and complaining of certain general symptoms of a suspicious nature, the following alterations of the murmurs in the upper lobe of either lung may (if permanent) indicate that there exists some bronchial irritation, which, if not arrested, may lead to a morbid condition of a more advanced and intractable type.

| Respiration.  |   | Adventitious sounds. | Percussion. | Voice.  |
|---|---|----------------------|-------------|---------|
| Inspiration.  | Expiration.                                     |                      |             |         |
| Diminished in length, increased in loudness, and rather abrupt. | Slightly increased both in length and loudness. | None.                | Normal.     | Normal. |

But it may happen that, instead of the smaller air-tubes alone being first affected, the terminal vesicles and their intervening tissue are the seat of irritation, with or without a similar condition of the neighbouring tubes; in other words, that the early stage of scrofulous pneumonia may precede the deposition of tubercle without the accompaniment of scrofulous bronchitis. That this may be the case is as certain as that ordinary pneumonia may (at its origin) exist without any bronchitic complication. In early phthisis, however, I believe this to be more rare. Local excitement of the air-tubes may exist alone, or in combination with a similar condition of the parenchyma; but a primary affection of this latter alone is, I think, of less frequent occurrence,—when present, it nevertheless affords some evidence of its existence.

The first stage of ordinary pneumonia is usually stated to present the following morbid appearances:—The diseased part presents a darker red colour than in health, and crepitates less; if cut, an exudation of frothy bloody serum, more or less abundant, takes place. The vesicles still contain air: some are already obliterated, all are more or less obstructed. This pathological condition was designated by Laennec as the first stage of pneumonia; but these changes already indicate a considerable departure from a healthy state, and that between a healthy lung and one such as above described, there must have been some transition phenomena. This, indeed, is the opinion of that able auscultator,

Dr. Stokes, who properly considers the first stage of pneumonia, according to Laennec, to be in reality the second stage, or that of sanguineous congestion; the actual condition of the affected tissues in the first stage being simply one of local excitation, indicated by a puerile sound of respiration in the part itself. Now, I believe that, in some cases of very early phthisis,—when, in fact, the disease appears rather to be hovering over its victim than to have struck it—a condition of the parenchyma exists, analogous in character (but not in its progress or results) to the primary change which takes place in ordinary pneumonia—namely, a local excitation of the air-cells and of the minute tubes entering them, and that this may give rise to the same physical sign—an exaggerated respiratory murmur in the affected part. I am fully aware that this kind of breathing is always supposed to denote disease existing in some other portion of lung, and that it merely indicates an increased amount of activity in a healthy part, rendered necessary by the inactivity and loss of power in the diseased one. I do not, however, entirely participate in this opinion with regard to every form of exaggerated respiration, especially when it occurs in the same lung in which more evident indications of disease exist, and this for the following reasons:—That, in ordinary pneumonia limited to a small portion of lung, there is generally audible, at the edges of the affected portion, an exaggerated respiration—i. e., in one spot we may have crepitating râle, alight dulness, feeble respiration, and, in close proximity, a loud puerile breath sound. Now I can scarcely imagine it possible for this loud breathing to be the result of an act of compensation in the tissue immediately adjoining; it presupposes that the limits of the disease are distinctly marked out by some boundary, beyond which there exists a perfectly healthy condition of the lung. It, however, happens that this exaggerated respiration is often the prelude to an extension of the disease, its locality becoming usurped by signs which actually indicate such extension.

These two circumstances—first, the improbability of a portion of lung immediately adjoining a diseased one, being so healthy as to be able to perform more than its ordinary amount of function; and secondly, the frequent invasion of this supposed healthy part by the signs of the disease which exist in its immediate vicinity—render it, I think, far more probable that the tissue presenting the exaggerated breathing is no longer in a normal condition, but rather in a state of local excitation; and that it is to this excitement—whether occurring primarily, or as the result of an extension of disease—that the exaggerated respiration is due.

[We pass over the author's solution of the difficult question of the *modus operandi* of this condition in causing exaggerated respiration, and proceed to his account of the phthisical signs of tubercular inflammation.]

Scrofulous or tubercular inflammation of the lung (according to whether it be accompanied by the deposition of tubercle or not) may be divided into three stages—1st, of Congestion; 2dly, of Inflammation; 3dly, of Induration. The first of these is that condition which succeeds to the existence of localised excitation still unsubdued; and, in the following table, the physical signs which reveal these different stages are arranged in the order in which they usually occur:—

#### PHYSICAL SIGNS OF TUBERCULAR INFLAMMATION.

##### *Stage of Congestion.*

| Respiration.                            |  | Râles. | Voice.  | Percussion.      |
|---|--|--------|---------|------------------|
| Inspiration.                            | Expiration.                            |        |         |                  |
| Intensity and duration both diminished. | Intensity natural; duration increased. | None.  | Normal. | Slightly damped. |
| Both murmurs rather harsh and dry.      |  |        |         |                  |

*Stage of Inflammation.*

| Respiration.                                | Râles.                                  | Voice.             | Percussion.         |
|---|---|--------------------|---------------------|
| Character of the murmurs the same as above. | Small crepitation occasionally audible. | Slightly resonant. | Dulness commencing. |

*Stage of Induration and Atrophy.*

| Respiration.   |                    | Râles.  | Voice.         | Percussion.         |
|--|--------------------|---|----------------|---------------------|
| Inspiration.   | Expiration.        |   |                |                     |
| Shorter, but becoming louder than before.                                  | Longer and louder. | In some spots the same crepitation may still be audible; but it often happens that no adventitious sound accompanies the murmurs. | Bronchophonic. | Dull and resistant. |
| Both murmurs rough and metallic, with tubular character in the expiration. |                    |   |                |                     |

These three stages of scrofulous inflammation of the lung are all to which it is necessary to refer; inasmuch as the succeeding ones—namely, suppuration, ulceration, and the formation of cavities—are connected with the more advanced periods of phthisis. My present purpose, however, is simply to consider the pathological conditions of its early stages, as independent of the presence of tubercle in very many instances; and to endeavour to show that, even when present, they play but a secondary part, whether in the production of the general symptoms or physical signs afforded during the progress of pulmonary consumption; while in many cases of the disease, especially as met with in the latter periods of life, they are entirely wanting—at least, in the solid state.

The process of tubercular inflammation presents certain varieties in its physical signs, as indicated in the preceding table. In the first two stages this difference is not strongly marked, being of one degree. In the third, however, these signs are most distinctive, and (as in the case of bronchial and vesicular irritation) may all be explained by reference to the condition of the affected tissues.

When a portion of the pulmonary substance has been for a length of time the seat of augmented excitability or irritation, it tends (unless this irritation be removed) to depart still further from the healthy condition. Hitherto there has been preternaturally active circulation existing in the part; but the continuance of this, gives rise to the following changes:—Its blood-vessels become more and more distended by the increased flow; their elasticity is diminished, and they become crowded with an unusual number of red corpuscles. Of these, some still move onward in the current of the circulation, while the majority remain stationary: at the same time the capillary vessels not only are distended, but elongated. Such are the changes which take place in a part hitherto the seat of an unresolved irritation, and, if we suppose this part to be the membrane lining the air vesicles, the physical signs attributed above to that stage of scrofulous inflammation characterised by this condition are thoroughly explicable.

The parietes of the pulmonary air-cells are formed by a membrane, the nature of which is not satisfactorily ascertained; it is probable, however, that it partakes more of the serous than the mucous character, and is equally liable to be affected by the same exciting causes of irritation. As long as this latter condi-



tion exists, there is (as before stated,) increased amount of blood, augmented rapidity in its flow, and a corresponding increased functional activity. Should this last for any time, a change will soon take place in the membrane forming the parietes of the vesicles. The rapidity of the local circulation, hitherto greater than natural, is now much diminished; even below the natural standard. In some of the vessels the blood still moves, in others it stagnates; their elasticity has been destroyed by over distension, from the crowd of red corpuscles blocking them up, and they become elongated and tortuous. Such a condition of the vesicular membrane must, it is evident, produce its effects chiefly upon the dimensions of the small cavities of which it forms the boundary. These cavities, or air-cells, are, therefore, not only diminished in size by the increased thickness, and tumefaction of their walls, but the freedom with which they admit the inspired air is also lessened by the obstruction which is thus presented to their ordinary dilatation, as well as by the pressure which is exercised outside of them by the distended plexus of capillaries of the intervesicular areolar tissue. This obstruction to the entrance of air, combined with the greatly diminished capacity of the cells, involves the admission of a less amount than natural; and hence, upon principles previously stated, the diminution in the length and loudness of the inspiratory murmur.

Upon these grounds, however, it might be supposed that a similar change should take place during expiration. This, however, is not the case; true, it still continues feeble; but this arises simply from the fact that no portion of the lung has, as yet, become a sufficiently good conductor of the murmurs, (independent of their intrinsic weakness.) Consequently, the expiratory murmur, while its intensity is scarcely above the natural standard, is much lengthened, owing to the diminished reactive power of the swollen vesicles. These, having lost much of their usual elasticity, contract upon their contents with less force and rapidity than they are wont to do when in health. The air having thus to find its way out of the tissues presenting an obstacle to its exit, and the assistance afforded by the elasticity of the vesicles being diminished, the process of expiration and its accompanying murmur are necessarily much prolonged.

With such a condition of the vesicular tissues of the lung, any explanation relative to the harsh dry character, and sensation of difficult production which the murmurs now present, would be superfluous. But there is another physical sign, which, though not of an auscultatory nature, may be here, nevertheless, alluded to, since it is sometimes to be appreciated even at this early stage, and is, I think, liable to misinterpretation; I allude to a shade of dulness on percussion which I do not conceive, under these circumstances, to be owing to the presence of tubercles; it is too diffused, too slight in degree. Tubercle, when existing in sufficient quantity to produce dulness, affords a more marked and resistant character in the percussion-sound; and, when occurring in isolated spots, the diminution of sound is rather the result of a congested condition of the surrounding tissue, which accompanies or precedes such deposition. That this is really the case may, I conceive, be inferred from the fact that we often find this slight diffused dulness to be removable by means which remove congestion; while the more decided dulness of tubercular consolidation is totally uninfluenced by such measures.

So much, then, for the congestive stage of scrofulous inflammation of the lung; its general symptoms are those of incipient phthisis—in fact, it very frequently constitutes the early stage of the disease; but its physical signs are not necessarily the result of tubercular deposition. In the subsequent stage, however, this matter is usually formed; but, even at this juncture, I doubt whether it gives rise to all the physical signs so unequivocally laid down as indicating its existence in a solid state. These signs, it is almost needless to say, are attributed to the unsoftened tubercle, blocking up the cells, opposing the entrance of air, and thus imparting a hard, rough character to the murmurs, an increase in their intensity, from the increased conducting power of the lung, and a dull percussion-sound, from the greater density of the subjacent tissues. Such, indeed, may be the signs of tubercular deposition, when it has become solid; but, with regard to its actual deposition in this form, I am inclined rather to adopt the opinions of Vogel, Carswell, and some of the Parisian pathologists, and to believe that tu-

berole, when first deposited, is in a fluid state. If such be the case, it is evident that this fluid condition can be but temporary. Were it, however, possible to hit upon the time at which the exudation took place into the air-cells and smaller tubes, I see no good reason for its not affording a sound resembling more or less those which occur when pus or ordinary lymph is effused in the same localities. My reasons for adopting such a view are, I confess, unsupported by any authority, being purely the result of personal experience, which is as follows:—

I have not unfrequently found (in what were, in all probability, cases of incipient phthisis,) a combination of sounds indicative of the congestive state of scrofulous inflammation,—viz., feebleness and shortness of inspiration, harsh prolonged expiration, with slight diffused dulness; and that, after the persistence of these signs for an indefinite period, there was heard a minute crepitation, limited to one small space. This has lasted for a variable time—sometimes for a few days, sometimes longer, at others barely thirty-six hours; it has then disappeared, has again recurred in another place, again to disappear. The character of this sound was such as to give the idea of air passing through a glutinous semi-fluid substance; and I am inclined to believe that this short-lived recurrent crepitus is produced by bubbles of air passing through the semi-fluid tubercular matter until it becomes solid; the sound then, of course, ceases, while a fresh exudation in a neighbouring locality may cause its repetition; the period of its duration depending, of course, upon the time which the fluid portions of the tubercle take to be absorbed.

The third stage of scrofulous inflammation is one, the signs of which are constantly met with in earlier periods of phthisical affections; but, as a general rule, they appear almost invariably to be attributed to the agglomeration of a large number of tubercles. Now, it has been my lot to witness (more especially in the Parisian hospitals) cases, which, on dissection, satisfied me that such was, in many instances, a wrong interpretation relative to the physical signs discovered during life, and which, instead of being directly attributable to tubercular consolidation, were rather the result of that stage of scrofulous inflammation of the parenchyma which tends to produce induration of the affected tissues. The patients had died at an early period of the disease, generally from uncontrollable diarrhœa, the result of scrofulous intestinal inflammation; during life they presented general symptoms of incipient phthisis, and after death the upper lobe of one or both lungs was found in the following condition:—It appeared, at first sight, to have been atrophied; this was particularly the case where false membranes existed round its summit. In substance it was harder than natural, and was torn with some difficulty. The vesicular tissue was more or less obliterated, the tubes still open. Its colour varied in different instances, and in different portions of the same lung. In some parts, where apparently the morbid process was less advanced, it was of a dusky reddish hue, in others of a brown or ash colour, while those portions which were most indurated, were of a mottled gray or dirty yellow. In some cases the hardened tissues appeared almost black from the presence of melanotic matter. On cutting into such lungs the same appearances were visible, and the finger rubbed over the cut surface experienced a granular sensation. In some the bronchial tubes contained a thin liquid pus; in others nothing but an increased redness of the mucous membrane was visible; while, in the outskirts of the disorganized portions, the tissues appeared to be in an earlier stage of inflammation. Now all the above changes, it may be said, were the result of chronic pneumonia, and so they, indeed, were; but the patients had presented strong indications of the tubercular diathesis, and, in addition to these morbid appearances, there were found among the diseased parts tubercles scattered here and there. Some of these were in the miliary condition, others had assumed the form of crude, yellow tubercle. But were they in sufficient numbers to account for the physical signs present before death? By no means; had the surrounding tissues been in as healthy a condition as they not unfrequently are (round even a larger amount of tubercular deposition), the modifications of the respiratory murmur produced by their presence would have been neutralised by the quantity of healthy intervening pulmonary substance. I confess that, at the time, prejudiced in favour of the non-inflammatory origin of tubercle, from a previous attendance in the wards and on the lectures of the celebrated Louis, I had antici-

rated the discovery of a large agglomeration of tubercular matter, in order to explain the physical signs, which were those I have classed under the head of Induration, or the third stage of scrofulous inflammation of the lung. The amount of such matter actually present was inadequate to produce these signs, but the chronic inflammatory induration in which they were imbedded was sufficient to explain the mechanism of their production, and at the same time to throw some doubt upon the opinion which assigned to the presence of tubercle so large a share in the production of the physical phenomena of early phthisis.

[Before quitting the subject of scrofulous induration of the lung, the author speaks thus of its differential diagnosis:]

It has been previously stated, that in certain constitutions tubercles may be deposited as the result of a very trifling amount of local excitation. In such cases there is not unfrequently, it is true, found strong evidence of consolidation of one or other of the upper lobes, if not both,—physical evidence, indeed, so strong as to elicit surprise at the want of symptomatic phenomena to account for such a condition. Now, in these cases, I believe the tubercle lies dormant; the process from which its deposition resulted has been resolved, and consequently, the system no longer sympathizes with that, which is not in itself a source of irritation when once its exciting cause has been removed. If persons so circumstanced happen (as they not unfrequently do) to die of some other disease, the autopsy might report, as it often has done,—“tubercles were found in considerable quantity in the upper lobe, without any trace of inflammation, and of which no symptoms (not signs) were afforded during lifetime.” In these cases the absence of irritation or inflammation causes a corresponding absence of symptoms, tending to draw attention to the lungs. If, on the other hand, we find an individual of scrofulous habit or parentage labouring under hectic fever, emaciation, night sweats, cough, and accelerated pulse, dyspnoea, and find on examination that the upper lobes present distinct evidence of increased density, we may be pretty well satisfied that while the probability is in favour of the presence of tubercle, the real cause of the morbid signs and symptoms is the local irritation with which the system is sympathizing, and the induration in which the tubercles have been deposited.

There yet remains one more auscultatory sign pertaining to the early stage of phthisis requiring notice, inasmuch as its coincidence with or without the evidences of increased density of the lung, gives it a different interpretation, and indeed, in some cases, a different prognosis, although, for the most part, it is of very unfavourable import. I allude to the sub-crepitant rhonchus, which is more particularly alleged to indicate bronchitis of the small tubes; and no one will deny that its occurrence in the base of one or both lungs posteriorly is a valuable sign of the disease. But this rhonchus is not the same in all cases; and in the summit of the lung two forms may be often distinguished during the incipient stage of phthisis.

The first variety of the sub-crepitant rhonchus consists in the evolution of distinct bubbles, giving rise to a number of irregular, moist, crackling sounds, succeeding each other more slowly than in the second variety, occurring particularly towards the end of inspiration, but being continuous, more or less, with the expiration.

The second form of the subcrepitant rhonchus is more analogous to the true crepitation of ordinary pneumonia, both in the diminished size of the bubbles, and their less liquid character. In number they exceed those of the former variety, and, like the crepitant râle itself, they are almost exclusively audible during inspiration.

Now, with regard to this latter sound, I believe it to be the result of that scrofulous form of pulmonary inflammation previously mentioned; and its general occurrence, in my experience, with diminished percussion-sound and increased resonance of the voice, tends to confirm this opinion. But the first variety of subcrepitant rhonchus is liable to two interpretations.

There is, we know, a stage in the progress of pulmonary consumption when the tubercular matter tends to liquefy,—whether by an internal or external process is of but little moment. One thing, however, is certain,—that the presence of the now softened and liquid tubercle produces a moist râle, first described by

M. Fournet under the name of humid crackling rhonchus, and considered by him to be direct evidence of the softening of tubercular matter. I confess I have had this sound pointed out to me in the wards where it was first discovered; but, from its unassisted evidence, I have been unable to understand why it should be more connected with such a process than the first variety of subcrepitant râle when limited to the apex of a lung. Both consist of a limited number of bubbling sounds of very similar quality; both are most distinct during inspiration, though likewise audible in expiration; and they both give the idea of bubbles breaking at the summit of a fluid in tubes of similar calibre. The fact, then, that a subcrepitant râle in the apex of the lung merely indicates a suspicious character of bronchitis, and the humid crackling râle, a decided softening of tubercle, appears to be an untenable distinction. The two sounds resemble each other closely, and may be constantly mistaken the one for the other; the so-called humid crackling being nothing but a subcrepitant râle more metallic in quality, and rather sharper in tone, than usual.

There is, however, one point which may lead to the solution of the question as to the probable nature of the sound,—namely, its consideration with reference to time, and its coexistence or not with dullness and resistance upon percussion. A râle of this kind (even if it should be the humid crackling), if heard at a period when the general symptoms indicate a recent invasion of the disease, though limited to the apex of the lung, if unaccompanied by dullness, may, however suspicious its locality, be set down as the result of bronchial inflammation,—probably, indeed, of a scrofulous nature. Let it, on the other hand, occur subsequent to the manifestation of decided dullness, and one or other of the following conditions may be presumed to exist:—either an inflammatory induration of the parenchyma, complicated with a minor degree of scrofulous bronchitis without tubercle, or a similar condition of the parenchyma giving rise to a deposition of this matter in the air-cells and smaller tubes. It is of little consequence whether scrofulous pus, healthy pus, or true liquid tubercle, be the fluid through which the bubbles pass; if the locality be the same, the same sound, a subcrepitant râle, will be the result.

[In conclusion, the author observes:]

Such, then, are the conditions of the lung constituting the early phases of pulmonary consumption. I have confined myself almost exclusively to the results of auscultation in detecting them, and am fully aware that some points have not been as fully dwelt upon as they perhaps deserved,—more especially in the latter part. My object, however, has been merely to inquire into the propriety of attributing so large a share in the production of the physical signs of incipient phthisis to the actual presence of tubercle, and whether there be not a condition of the pulmonary tissues preceding or accompanying its deposition, equally capable of affording evidence of its existence by a reference to the altered dynamic condition of the lung.

#### ART. 12.—On Cod-liver Oil in Phthisis. By Dr. WALSH.

The following conclusions as to the value of the cod-liver oil are taken from the author's recent work on "Diseases of the Lungs." He states:—

1. That it more rapidly and effectually induces improvement in the general and local symptoms than any other known agent.
2. That its power of curing the disease is undetermined. I mean here by curing the disease, its power of causing, along with suspension of progress, such change in the organism generally as shall render the lungs less prone to subsequent outbreak of tubercles, than after suspension occurring under other agencies.
3. That the mean amount of permanency of the good effects of the oil is undetermined.
4. That it relatively produces more marked effects in the third than in the previous stages.
5. That it increases weight in favourable cases with singular speed, and out of

all proportion with the actual quantity taken; that hence it must, in some unknown way, save waste, and render food more readily assimilable.

6. That it sometimes fails to increase weight.

7. That in the great majority of cases where it fails to increase weight, it does little good in other ways.

8. That it does not relieve dyspnoea out of proportion with other symptoms.

9. That the effects traceable to the oil in the most favourable cases are:—increase of weight, suspension of colligative sweats, improved appetite, diminished cough and expectoration, cessation of sickness, with cough, and gradual disappearance of active physical signs.

10. That in some cases it cannot be taken, either because it disagrees with the stomach, impairing the appetite (without itself obviously nourishing), and causing nausea, or because it produces diarrhoea.

11. That in the former case it may be made palatable by association with mineral acid, and in the latter prevented from affecting the bowels by combination with astringents.

12. That intra-thoracic inflammations and hæmoptysis are contra-indications to its use, but only temporarily so. I have repeatedly given the oil within a day or two after cessation of hæmoptysis, without any return taking place.

13. Diarrhoea, if depending on chronic peritonitis, or secretive change, or small ulcerations in the ileum, is no contra-indication to the use of the oil; even the profuse diarrhoea caused by extensive ulceration of the large bowel is not made worse by it.

14. That the good effects of the oil are, *ceteris paribus*, directly as the youth of those using it,—a singular fact, which probably may one day (when the textural peculiarities of youth and age are better understood), aid in giving a clue to its mode of action. (*Vide Report.*)

#### ART. 13.—On Acute Capillary Bronchitis.

By T. B. PEACOCK, M.D., Assistant-Physician to St. Thomas's Hospital.

(*Lancet*, Aug. 9, 1851.)

*Symptoms.*—It occasionally happens that, after having suffered from an ordinary catarrh for a few days, a patient is suddenly seized with acute febrile disturbance, together with difficult and hurried breathing, sense of constriction across the chest, and cough, giving the impression that he is becoming the subject of acute pulmonary inflammation; and yet, on careful examination of the chest, no decided evidences of disease may be detected. Perhaps there may be some harshness of the respiratory sounds, more especially on listening at one or both lower dorsal regions, or slight sibilant rhonchus, on forced inspiration, or general feebleness of respiration; but, in many cases, careful examination will elicit no marked physical sign.

If appropriate treatment be at once had recourse to, these symptoms may wholly subside at the end of a day or two; on the contrary, however, if they be not at once subdued, evidences of serious pulmonary disease will soon develop themselves. The febrile symptoms will become more marked, the pulse will be quick and vibratory, the tongue moist, but covered with a thick whitish-brown fur, the respiration will be more hurried and difficult, the sense of constriction will increase, the cough become frequent, and be attended by a scanty, pale, glairy expectoration. On listening to the chest there will now be heard, at the lower dorsal region of one or both lungs, a slight crepitant rhonchus, generally with some sibilant sounds in other parts of the lungs, and this crepitation will rapidly diffuse itself over other parts of the chest. It will extend to the upper dorsal regions, and then to the lower parts of the chest laterally and anteriorly, while it will acquire a coarser or more subcrepitant character in the parts where it first appeared. At the same time the chest, so far from yielding a dull sound on percussion, will retain its natural clearness or will become abnormally resonant. The respirations will be shorter and more rapid, the face deeply flushed or livid, the patient will become much prostrated, and will be no longer able to lie in the recumbent position, but will be compelled to be much raised or placed upright

in bed. At a still later period the crepitant rhonchus will be audible in all parts of the chest, and with the expiratory as well as the inspiratory acts, and loud gurgling sounds will be heard at the root of the lungs, and in the vicinity of the larger bronchial tubes. The chest will now be morbidly resonant on percussion, either entirely or in part, the resonance being most marked at the upper and anterior regions, while the lower and posterior may yield a more or less dull sound. The face will be flushed and tumid, the lips purple, and the extremities livid and cool. The cough will be frequent, but not generally attended with pain, and the expectoration will consist of viscid, whitish coloured muco-purulent masses, which, on close examination, will be found composed of small pellets, aggregated together and free from air. Sometimes the sputum will be raised in considerable quantities, but, with the progress of the disease, and the declining strength of the patient, it will become scanty, or altogether incapable of being evacuated. The pulse will be quick and feeble, varying from 130 to 150; the respirations will be short and rapid, from 40 to 60 in the minute, and both the inspiratory and expiratory acts will be performed with great effort. The sense of suffocation will become extreme, and the patient will die asphyxiated in from nine to twelve days from the commencement of the symptoms.

This, we shall perceive, presents a picture of the disease in its most unfavourable form, such as we happily only see in persons who have not been subjected to treatment in the earlier stages, or in those who labour under other serious disease. In the cases which terminate in recovery, the amendment is marked by the respiration becoming freer and less rapid, so that the patient requires to be less constantly propped up in bed; the lividity of the face decreases, the pulse becomes slower and stronger; the cough less troublesome, and the sputum is more readily expectorated, and assumes a diffuent muco-purulent character. The abnormal resonance and dullness of the chest gradually subside, the crepitation ceases to be heard in those parts where it had last become audible, disappearing first in the front and upper parts of the chest, then in the lower regions anteriorly and laterally, and lastly in the dorsal regions. A long period, however, elapses before the physical signs entirely disappear, and when the general symptoms are relieved, some degree of crepitant rhonchus will generally still be heard at the lower part of one or both dorsal regions, and after the subsidence of other evidences of disease, there can usually be detected a general want of clearness on percussion in all parts of the chest, and the inspiratory sound is found somewhat harsher or feebler, and the expiratory sound louder and more prolonged than natural; these signs being the more persistent according to the extent to which the disease has been allowed to proceed before appropriate treatment is had recourse to, so that in some cases permanent emphysema of the lungs and dilatation of the smaller bronchial tubes, giving rise to symptoms of asthma, apparently result from attacks of acute capillary bronchitis which had been neglected in the earlier stage.

*Morbid appearances.*—In the cases of acute capillary bronchitis which prove fatal, the condition of the substance of the lungs and of the bronchial tubes is precisely such as the physical signs observed during life would lead us to expect. The pulmonary cells, over a large portion of the lung, are completely and equally inflated, so that when the sternum is raised, the lungs not unfrequently protrude from the cavity of the chest. Some portions, however, particularly the posterior and inferior parts and the edges of the lungs, are usually found in a state of consolidation, depressed below the level of the adjacent inflated portions, and of a deep purple colour. The consolidation will be found to be lobular, being bounded by abrupt and angular margins formed by the interlobular cellular septa, and may involve either a few isolated lobules, or a larger or smaller portion of one or both lungs. The bronchial tubes will contain much secretion, and their lining membrane will be reddened, roughened, and thicker and softer than natural; the amount of secretion in the tubes, and the intensity of the change in the mucous membranes, increasing as we advance towards the ultimate ramifications of the bronchi. Some of the smaller tubes, and especially those contained in the portions of consolidated lung, are entirely filled with secretion, so that when a section is made through one of these spots, small drops of viscid white matter are seen to exude from the cut extremities of the bronchi. The

matter contained in the tubes of larger size more nearly resembles ordinary muco-purulent fluid, but in those of smaller size, it is whitish-coloured and very viscid, and occasionally almost membranous; and in those contained in the consolidated lobules it is more or less distinctly purulent. The consolidated parts vary considerably in appearance and firmness; some are of a uniform purple colour, and are solid, and give a peculiar knotty feeling when the lung is handled; others are of a yellowish colour, and are soft, so as readily to break down under pressure; and in yet others the tissue is entirely diffuent, or small cavities are formed, either by the dilatation or ulceration of the smaller bronchial tubes, or by the suppuration or breaking down of the consolidated pulmonary tissue in which they are imbedded.

When his attention was more particularly attracted to the morbid anatomy of the acute capillary bronchitis, during the epidemic of influenza, Dr. Peacock adopted, as the explanation of the two opposite conditions of the lung which were found after death, the views then generally received. The inflation he referred to the air being drawn into the cells with the inspiratory act, and retained there in consequence of the act of expiration being too feeble to force it out through the obstructed bronchial tubes; and the consolidation he regarded as the result of inflammatory exudation into the substance of the lung, and applied to it the common term of "lobular pneumonia."

These views, however, the author is now disposed to regard as erroneous. The inflation of the lung cannot, he thinks, depend on the cause assigned, because, so far from the act of inspiration being the most powerful of the two, it is really the feeblar, and also because the inflation is developed, not in those parts of the lung in which the obstruction is most considerable, but, on the contrary, in the portions least affected. The consolidation also, he observes, cannot depend on exudation into the cells, because the condensed parts can, in some cases, be entirely inflated after death.

The profession have for some time been familiar with the collapsed condition of the lung which is found in new-born children, and to which the term "*atelectasis pulmonum*" has been applied, and more recently the same change has been described in a very able paper by Dr. Gairdner, of Edinburgh, as a not infrequent result of bronchitis. That the lobular condensation of the lungs in these cases is dependent on collapse of the cells, may be frequently demonstrated by the ready inflatability of the condensed parts; while, in other cases, the extension of the inflammation from the bronchial tubes to the collapsed tissue around, and the various changes which result, afford a sufficient explanation why the test of inflation should no longer be applicable.

Adopting, therefore, the views of Dr. Gairdner, the two conditions must, the author believes, be ascribed to the different degrees of obstruction in different parts of the lungs. In those parts where the swelling of the bronchial mucous membrane and the secretion in the tubes exist to the greatest extent, the air may be wholly prevented from entering into the pulmonary cells during the act of inspiration; while from the peculiar arrangement of the bronchial apparatus, and the greater power of the expiratory act, that which has already entered may be pressed out, and thus the cells will become entirely empty and collapsed. In those portions of the lungs, on the contrary, where the bronchial obstruction is less, the air will enter with more force, and will thus give rise to the extensive and equable inflation of the cells which is observed; and if any portion of the pulmonary tissue give way from over-distention, true emphysema, either vesicular or inter-lobular, may also be produced.

*Diagnosis.*—From the history which has been given of the symptoms during life, and the morbid changes which are detected in the lungs after death, we shall be aware that this form of inflammation of the lung is liable to be confounded with inflammation of the larger bronchi on the one hand, and of the cells on the other. In the early stages of this disease, before the physical signs have been developed—when, indeed, the dyspnoea which exists probably mainly depends on spasm of the bronchial tubes, a precise diagnosis can hardly be effected, and we can only conjecture the probable form of inflammation which is commencing. When, however, effusion has already taken place into the tubes, we shall be able to detect various signs by which the disease may be discriminated

from those affections which most closely resemble it. Capillary bronchitis may be distinguished from general or ordinary bronchitis,—

1st. By the degree of dyspnoea and lividity of the face being greater, and the prostration of strength not only appearing earlier, but being throughout more marked.

2d. By the different forms of crepitant and sibilant rhonchi being at all times the prevailing physical signs.

3d. By the cough being less severe, and the sputum being rather in the form of viscid masses composed of smaller pellets than the diffuent muco-purulent expectoration of ordinary bronchitis.

From pneumonia, capillary bronchitis may be distinguished,—

1st. By the general symptoms; the less sthenic character of the febrile disturbance, the greater degree of lividity of the face and extremities, the more rapid prostration of strength, and the earlier appearance of the symptoms of asphyxia.

2d. By the physical signs; the absence of material dullness on percussion in the earlier stages, and the occurrence of abnormal resonance, either over the whole or greater part of the chest, at the later periods. The crepitation also is of a coarser character than that which characterises pneumonia, and is first perceived in the inferior parts of one or both dorsal regions, and thence rapidly spreads over the whole chest, and this sign tends rather to pass into the subcrepitant and mucous rhonchus than to give place to evidences of consolidation.

3d. By the peculiar character of the dyspnoea, cough, and expectoration. The respiratory movements are rapid, short, and hurried, rather than laborious and irregular, and there is sense of constriction in the chest, generally without pain. The cough usually comes on in paroxysms, and is fatiguing from its frequency rather than painful or very severe. The sputum consists of small whitish-coloured viscid masses, free from air, and wants the small air-bubbles, the russet colour, and adhesive quality of the expectoration of pneumonia. These signs, though sufficient to distinguish from pneumonia those cases of capillary bronchitis in which the pulmonary tissue is inflated, will not be entirely applicable when considerable portions of the lung are collapsed. In such cases there will exist, in addition to the usual signs of bronchitis of the smaller tubes, the signs of the existing consolidation, such as bronchial respiration, voice, and cough; but—

4th. The history of the case, the ascertained existence of extensive bronchitis before the evidences of consolidation were present, probably also the sudden occurrence of the consolidation, and the persistent bronchitic character of the sputum, which, in cases of true pneumonic complication would consist of a mixture of the sputum of pneumonia and bronchitis, will probably enable us correctly to conjecture the nature of the change which has taken place in the lungs.

*Treatment.*—After this brief outline of the symptoms, morbid appearances, and diagnosis of the acute capillary bronchitis, Dr. Peacock refers to the method of treatment which experience has shown to be most applicable for its relief. He remarks that the great tendency of inflammation in any portion of the bronchial mucous membrane to become diffused over the whole of the lungs, and the general obstruction to the circulation which results, render it most important that a correct view should be early taken of the nature of the affection, and an appropriate system of treatment be speedily adopted; for if the first signs of pulmonary disorder be misconceived or neglected, and the disease be allowed to proceed to extensive effusion in the smaller bronchial tubes, the success of any course of treatment becomes doubtful. In sporadic cases of acute capillary bronchitis occurring in persons of robust habit, general bleeding may sometimes be cautiously employed, but generally local depletion is all that is necessary or admissible, especially where, as is most frequently the case, the disease occurs in an epidemic form. Of the modes of local depletion, cupping is preferable to the application of leeches, being less fatiguing to the patient, while, if the scarificator be applied between the shoulders, direct relief is afforded to the organ affected. When time is of so much importance as in these cases, it is well also at once to commence the exhibition of calomel and opium, and to continue the calomel so as to produce a slight affection of the gums. As, however, in the earlier periods of all forms of inflammation of the lungs, antimony is especially



efficacious, it would be well to prescribe that remedy, either in the form of emetics or nauseant doses, so long as the patient's strength will admit. Dr. Peacock has been led to believe that emetics afford most relief in these cases, while, as they occasion less depression, they can also be longer continued. When the inflammatory action has been in some degree subdued by antiphlogistic measures, blisters and other forms of counter-irritation may be advantageously employed.

When the disease has advanced into the third stage without having been actively treated, when crepitation is audible over all parts of the chest, and there is great difficulty of breathing, and prostration of strength, an attempt may be made to get rid of the redundant secretion by the exhibition of stimulating emetics, but the beneficial effect of these remedies is generally only temporary. Expectorants and diffusible stimulants may also be exhibited, though their usefulness much depends, as has been remarked by Dr. Stokes, on the previous course of treatment. When the patient has been neglected in the early stage, or when the depression of strength has precluded from the first the employment of depletion, the stimulating treatment is usually of little advantage; but when reducing measures are early resorted to, the subsequent exhibition of stimulants has generally a most favourable influence on the successful issue of the case. During this stage of the disease, sinapisms, blisters, &c., may be from time to time applied; but, under all circumstances, the convalescence is very protracted, and the patient's strength requires to be supported by nutritious diet, stimulants, and tonics.

ART. 14.—*Remarks on the Nature and Treatment of Hay-Fever.* By F. W. MACKENZIE, M. D., London.

(*London Journal of Medicine*, July, 1851.)

[The author calls attention to the fact, that certain persons are susceptible to morbid impressions upon the mucous membranes, from particular perfumes, or more palpable matters, as the dust of ipecacuanha, and the emanations from hay or fermenting grapes, from the latter of which arises what is termed "Hay-Fever." He points out the rebelliousness of this disease to treatment, and the obscurity which surrounds its pathology. In the treatment he has found arsenic highly serviceable. Speaking of the pathology of hay-fever, the author observes:—]

Of the precise pathological nature, or the proximate cause of hay-fever, we are entirely unacquainted; and we are therefore unable to deduce any satisfactory mode of treatment. I have remarked that the more obvious symptoms appear to depend on morbid irritability of the organic nerves of the respiratory mucous membrane, and that, in this respect, it presents some analogy to a kindred affection of the skin, characterised by extreme irritability of the cutaneous nerves, and one at the same time in which arsenic is extremely efficacious. Upon this ground I was more particularly first led to employ it; but there are other considerations which recommend it to our notice. In the first place, the origin of this complaint is very similar to some in which it has been given with much benefit, such as remittent and intermittent fever, neuralgic affections, and some forms of rheumatism, which, in common with hay-fever, are traceable to malaria, miasmata, or vegetable effluvia of various kinds; whilst in the more specific actions peculiar to these, and in the morbid condition of the nervous system which prevails, we see much that is analogous in all. But independently of these more specific diseases, we have many and undoubted proofs of the utility of arsenic, in correcting or controlling irregular nervous actions, and morbid conditions dependent upon them; and its remedial powers in chorea and epilepsy, in prurigo, lepra, psoriasis, and many other cutaneous diseases, may be cited in illustration. Within certain limits, most writers agree in considering it as a tonic; and as such, its action is especially marked upon the skin and the mucous membranes. An eminent practitioner remarked, that for strengthening and giving tone to the former, he knew of nothing equal to it;

and in regard to the latter, it has evidently a specific action upon that of the whole respiratory tract. Hence its administration, when given too largely, or for too long a period, is occasionally followed by redness and irritation of the eyes and eyelids, coryza, dryness of the throat, cough, and symptoms of pulmonary irritation; and, on the other hand, in moderate doses, it has been given beneficially in various irritable and morbid conditions of this membrane, such as is met with in asthma, whooping-cough, catarrh, ophthalmia, &c.

Mr. Wm. Simmonds, of Manchester, gives the following report of its employment in whooping-cough, in a letter to Dr. Duncan, published in the second volume of the "*Annals of Medicine*," for 1797, p. 393. "For upwards of three years, I have given arsenic in the whooping-cough with the most salutary effect. In general, it has put a stop to the disease in about a fortnight; and it has never failed to moderate it in a few days. I have administered it in one unsuccessful case only, and even then it afforded considerable relief; and had I been called in earlier, or had I been permitted to pay the attention the case required, I am of opinion it would have succeeded in that also. I have used it in the form of the mineral solution of Dr. Fowler; and in the dose, and with the precautions recommended by him in his work on Intermittents, &c., children of a year old may take it with safety. Previous to, and during its use, bleeding, blisters, and emetics may be employed, according to the indications, particularly the latter. It should be continued until the disease is subdued; and then, leaving it off for a week, it should then be had recourse to for a week, to prevent a return. Should exposure to cold occasion a relapse, it has hitherto put a stop to it, upon being taken for a few days."

In some forms of ordinary catarrh, I have myself given arsenic with the best results; but more especially in those cases in which the affection has been of a local character, and there has been an absence of inflammatory action, as well as of febrile disturbance. These circumstances forbid its employment; and it is because they so frequently occur in connection with catarrhal complaints, that it is for the most part inappropriate. Where, however, there is irritation of the mucous membrane rather than inflammation, as is especially the case in hay-fever, it may be employed with much advantage.

In catarrhal ophthalmia, and more especially in those forms which are of a passive, subacute, or chronic character, or where the irritability of the conjunctiva is excessive, arsenic has a very beneficial effect. I might subjoin cases in illustration of this fact, were it not well known to oculists, and referred to in systematic treatises on diseases of the eye.

Lastly, in intermittent headaches, brow ague, cephalalgia, and other affections in which the mucous membrane of the frontal sinuses appears to be the seat of pain, arsenic has proved efficacious. These facts are all of importance, in connection with the subject of the present communication.

The cases of hay-fever in which I have seen it most serviceable have been of a catarrhal rather than of an asthmatic character; and I have given it, on an average, in doses of five minims of Fowler's solution three times a-day. Where, however, the attack has been slight, or the medicine has been given with a view of improving the tone of the mucous membrane rather than of correcting morbid action, three-minim doses, or even less, are preferable; whilst, on the other hand, if the irritation has been excessive or resists these, larger doses may be given, and their action modified or assisted in different cases by remedies of a kindred character.

Arsenic is best given, in this affection, in moderate doses, and I should propose smaller than those recommended by Dr. Fowler, whose experience led him to lay down the following rules for its administration: "Patients from two to four years," he says, "may take from two to four drops of the solution; from five to seven years, may take from five to seven drops; from eight to twelve years, may take from seven to ten drops; from thirteen to eighteen may take from ten to twelve drops; and from eighteen and upwards, may take twelve drops as a dose." He advises that doses proportional to the age of the patient should be administered three times a day for five days; then omitted for two or three days; and then repeated for three days, to prevent a relapse. These doses are mentioned with especial reference to the cure of intermittent fevers. They

are much too large for the cases under consideration; for which, from one to five minims of the mineral solution may be considered as an average dose, and beyond this it will seldom be necessary to carry it, while positive harm may result. Seeing, indeed, that the state of the mucous membrane is one of morbid susceptibility to impressions, and that the medicine has a specific action upon it, it is important to keep within due limits, and so avoid any severe or unfavourable reaction.

When the medicine alone fails to do good, its use may be alternated with quinine, or the two medicines may be given concurrently. Dr. Fowler found this practice successful, in the treatment of intermittent fevers, when either bark or arsenic, singly administered, failed to remove the disease. He observes: "if the solution and Peruvian bark have been given separately, and have failed, it will sometimes be advisable to try the joint power of the medicines at the same time, but in doses rather smaller than usual. In these cases, the solution should be given at stated hours three times a-day, and the Peruvian bark may either be given combined with it, at the same periods, or between the fits, in as frequent doses as the stomach can bear." Another useful addition to arsenic, when the irritation of the mucous membrane is severe, or the stomach is unpleasantly affected by it, is opium, in small doses; indeed, its general employment in conjunction with arsenic has been recommended by many practitioners, as being calculated to render its action not only more certain, but less disagreeable to the stomach; and in cases like the present, where the irritability of the part more immediately affected is excessive, its use is otherwise appropriate. It is best given in small doses, not exceeding two or three minims of the tincture or of Battley's solution; and should it derange the stomach, or interfere with the secretory functions of the liver or other organs, some other sedative may be substituted. I have seen very favourable effects from the Indian hemp in cases of morbid irritability of the nervous system, and these would lead me to recommend a trial of it in the present disease. The most efficacious preparation is the ætherial tincture.

Lastly, when the irritation is most marked in the pulmonary portion of the mucous membrane, and the symptoms are of an asthmatic rather than catarrhal character, ipecacuanha, antimony, squills, or some other expectorant, may be given concurrently with it, if circumstances indicate the employment of such remedies.

But in addition to the more specific treatment of the disease, much may be done in the way of prevention, by invigorating the nervous system, and improving the tone of the respiratory mucous membrane; and measures that fulfil these objects should be perseveringly employed by persons who are subject to these attacks. In particular, the daily use of the shower-bath, the application of cold locally to the chest, neck, and shoulders, and the use of cold collyria and gargles, may accomplish much good. The diet and regimen also should be subservient to these ends; and, if there exist an undue irritability of the nervous system, depending on a defective condition of the blood, steel in some appropriate form should be also given.

I would further observe, that when the disease is fully developed, and the irritability of the mucous membrane is very great and distressing to the patient, it may be very much mitigated by the occasional application of the vapour of warm water. By holding the face over a large basin of boiling water, and retaining the steam by means of a flannel thrown over the head and shoulders, it is readily and directly brought in contact with the whole respiratory branch, and affords a very striking relief to the irritation which exists. Of medicated vapours I have no experience; nor have I seen any benefit derived from the topical application of lotions of the nitrate of silver, &c. Indeed, seeing that the disease is seated rather in the nervous system than the mucous membrane, I should anticipate less benefit generally from local than from constitutional treatment.

These, then, are the principal points to which I would direct attention, in the treatment of hay-fever:—1, to preventive measures, comprehending, more particularly, tonic treatment in every available form, both local and constitutional; 2, to specific treatment, comprising more especially the administration of arsenic,

and modified or assisted in the manner proposed, according to the requirements of individual cases; 3, and lastly, to soothing or palliative treatment, which is not inconsistent with the former, but may be advantageously combined with it.

**ART. 15.—On Putrefactive Disease of the Lungs as a sequel of Pulmonary Apoplexy.** By H. FEARNSIDE, M. B. Lond.

(*Medical Gazette*, July 15, 1851.)

[The form of disease which the author here illustrates has been described by Dr. Law, and consists in the putrefaction of blood effused in pulmonary apoplexy. The patient was an unhealthy man, aged 44, employed in a cotton factory, dissipated, and of a phthisical family. For twelve months he had been subject to cough, and on examination there were signs of consolidation under both clavicles. He was therefore pronounced to be tuberculous, and treated accordingly.]

After exertion he began to spit blood, and on several occasions expectorated several ounces at a time. On examining the chest, now, it was observed that one side expanded more freely than the other. There was dulness under the right clavicle, but more so under the left, where the respiratory murmur was inaudible, and replaced by a coarse crepitation.

Under a sedative treatment the spitting of blood gradually subsided, but the cough and auscultatory signs remained unaltered. Soon the breath and expectoration were observed to have the fetid odour of gangrene; the latter being greenish in colour. Simultaneously the general symptoms became aggravated; the pulse became more frequent and feeble, his appetite failed, and he was continually bathed in perspiration. Under the use of generous diet, with nitro-muriatic acid, and diffusion of chlorine gas through the apartment, the patient gradually recovered, without, at any time, offering the signs of a cavity.

Upon this case the author makes the following judicious remarks:—]

As is stated in the history of the case, when the patient was first seen he was supposed to be suffering from incipient phthisis. This conclusion was rendered inevitable by a consideration both of the prodromata and the existing signs and symptoms. His course of life had been one calculated to lower the vital standard, and to produce degraded nutrition. Excesses of various kinds, and impoverished diet, had contributed to this result. His disease was evidently a chronic one; the physical signs gave evidence of the existence of some consolidation in the apices of both lungs, and this, interpreted by the light afforded by his history, could only be tubercular.

The nature of the disease which existed when he next presented himself to notice seemed to be almost equally clear. Very soon after the operation of a cause than which nothing can be conceived more likely to induce great pulmonary congestion, he was seized with profuse hæmoptysis, which recurred from time to time. On examining into the state of the lungs it was found that there was a much greater amount of solidity in the upper part of the left lung than when he was previously seen, as well as considerable effusion into the smaller air-tubes. The only causes to which this could be ascribed were—(a), extension of the tubercular disease; (b) condensation of the structure of the lung as a result of inflammation; (c), or pulmonary apoplexy.

(a). The great increase in the amount of solidification since the time when the patient was last seen, and the fact that up to a late period his health had been improving, coincided with the evidence supplied by the history as to the existence of recent disease, and precluded the idea of its being owing to increased tubercular deposit in the lung.

(b). Although pneumonia is by no means so uncommon in the upper lobes of the lungs as many practitioners appear to suppose—a fact which divests the circumstance of position of much of its importance as an element in the diagnosis of cases, such as the one under review—there were more conclusive reasons for denying the existence of inflammation of the lung. Such were afforded by the

general history, the occurrence of the hæmoptysis, the character of the pulse (small, feeble, and jerking), and the character of the expectoration.

(c). That the condensation was due to the effusion of blood into the substance of the lung; in other words, pulmonary apoplexy was rendered probable by the presence of hæmoptysis returning in fits—one of the most constant and least equivocal signs of this affection, when associated with other phenomena, also witnessed in this case. These were the dulness on percussion, absence of respiration over the summit of the lung, and the coarse crepitation over the neighbouring parts.

This being granted, the chief interest of the case attaches to the subsequent occurrence of putrefaction of the lung—a fact of which the intolerable odour of the breath and expectoration, occurring under the circumstances above described, will be deemed, I apprehend, sufficient evidence; for, although fetid matter may be expectorated in other diseases than pulmonary gangrene, it will be admitted, I think, that its exhalation from a solidified lung, without the presence of any of the signs of a cavity, can be ascribed only to the disease in question.

The termination of pulmonary apoplexy in gangrene is undoubtedly rare; it has, however, been previously witnessed. Dr. Townsend remarks upon this subject, 'Cyclopædia of Practical Medicine,' vol. i, p. 141: "Pulmonary apoplexy has been observed to occur as a precursory symptom of gangrene, and may, we conceive, in some cases contribute to produce it. In one instance, particularly, we were enabled to follow the different stages of the disease from the formation of an extensive hæmoptoic engorgement to its conversion into a large gangrenous abscess. The rationale of this transition may, we conceive, be explained thus; in the hæmoptoic engorgement the circulation through the indurated mass is completely obstructed by the solidification of the part, and by the vessels leading to it being plugged up with coagula of fibrine. This plugging up of the vessels has been noticed by Laennec, and more particularly by Bouillaud, and we have repeatedly ascertained the fact on dissection. Now if we compare the condition of the part thus circumstanced with the pathology of gangrene, as laid down by the most recent and approved authorities on the subject, we shall find it placed under precisely the most favourable circumstances for passing into gangrene—or, as the disease has been more appropriately designated by Dr. Law, putrefactive disorganization of the lung."

Another writer (Dr. Stokes, in 'Dublin Quarterly Journal of Medical Science,' Feb. 1850), to whom we are largely indebted for our increased acquaintance with thoracic pathology, makes the following observation upon this question: "The putrefaction of blood previously effused into the substance of the lung, as in cases of pulmonary apoplexy, has been considered by Dr. Law as constituting an important variety of pulmonary gangrene. I have not seen any cases of the change from one of these diseases into the other; and I apprehend that the occurrence must be rare. I would say, further, that, where a clot of blood effused into the lung putrefies, this change is in itself a proof of a gangrenous disposition pre-existing; and I feel satisfied that the hæmorrhages in cases of gangrene have no relation to pulmonary apoplexy. That an effusion of blood into the lung does not more often end in putrefaction of the fluid is certainly an extraordinary fact; but not more so than the rarity of putrefaction in abscesses, tubercular cavities, or empyema and pneumo-thorax. That it is rare appears from the fact that neither Laennec, nor many other writers on pulmonary apoplexy, mention gangrene as a result of the disease; which, besides is, in many instances, connected with disease of the heart, producing either an active or passive congestion of the lung."

From the decisive character of the symptoms presented in this case, it might have been expected that the signs of the existence of a cavity would have been unequivocal, but such was not the fact: so long as the patient remained under my observation, I was unable to satisfy myself of the presence of an excavation. It was stated by Dr. Wood, of Philadelphia, in his work upon the 'Practice of Medicine,' that after the expectoration of fetid matter we must conclude that a cavity has formed, and that we can detect it by the usual means. Dr. Stokes dissents from both these opinions. He states that he has known the expectoration of putrid matter to occur within thirty-six or forty-eight hours after the ope-

ration of the exciting cause, and that it is difficult to conceive the formation of a cavity so rapidly; and that, on the other hand, months may elapse with the best marked symptoms, and yet no signs of a cavity be discoverable.

ART. 16.—*Rules for Bleeding in Pneumonia.*

[The following judicious remarks by Dr. Bennett, are perfectly in accordance with our own experience:]

If we are called to a case at a very early period before exudation is poured out, and before dulness as its physical sign is characterized, but when, notwithstanding, there have been rigors, embarrassment of respiration, more or less pain in the side, and commencing crepitation, then bleeding will often cut the disease short. This state of matters is rarely seen in public hospitals. When, on the other hand, there is perfect dulness over the lung, increased vocal resonance, and rusty sputum, then exudation blocks up the air-cells, and can only be got rid of by that exudation being transformed into pus, and excreted by the natural passages. In such a case, bleeding checks the vital powers necessary for these transformations, and, as a general rule, if the disease be not fatal, will delay the recovery. I believe this to be the cause of so much mortality from pneumonia in hospitals where bleeding is largely practised, for, in general, individuals affected do not enter until the third or fourth day, when the lung is already hepatized.

*Edinburgh Monthly Journal, Aug. 1851.*

ART. 17.—*Treatment of Aphonia by Stimulating Inhalations.*

By Dr. PANCOAST.

(*Transactions of the American Medical Association, vol. iii, 1851.*)

The form of aphonia, here alluded to, is that following an ordinary cold without leaving any perceptible organic lesion in the pulmonary apparatus. The voice is reduced to a faint hoarse whisper, distinguishable only at the distance of a few feet; and a continued attempt to talk, though it gives no pain, becomes quickly attended with a feeling of fatigue, as though there were some obstruction to the passage of air through the larynx. In breathing merely, there is little or no difficulty; as the individuals are capable of undergoing considerable exertion without any unusual signs of fatigue. Having had an opportunity several years ago of observing the movements of the vocal chords in a person who had attempted suicide, and was left with a cicatrised wound opening into the ventricles of the larynx, Dr. Pancoast watched with great interest the play of these vocal chords, which were fully exposed to view, and was astonished at their frequent, varied, and extensive movements. From the evidence he obtained with regard to their motion, he was led to infer that this form of aphonia arose from a partial paralysis of the intrinsic muscles of the larynx, to be cured by stimulating them to action. His first case occurred eight years ago. The patient was a healthy young country girl; the aphonia had lasted for six months, resisting all treatment. She was made to inhale chlorine, gradually liberated from chloride of soda or lime, by very dilute hydrochloric acid in a common glass retort. The inhalation was continued for some minutes, and repeated two or three times a-day, according to the degree of irritation produced in the throat and larynx. From the first trial the patient's voice improved, and in three days had become nearly as strong as ever. Two months after her return to the country, another cold was followed by an attack of aphonia, which also yielded to a few inhalations of chlorine vapour. Dr. Pancoast has since treated a case in a medical practitioner, who had tried, among other remedies, repeated applications of strong solution of lunar caustic, without any good effects. The voice was restored to its natural strength in a week or ten days. He suggests that care should be taken that the chlorine be not developed too rapidly. He be-

lieves that it acts merely as a local stimulant, and that iodine, or any other exciting vapour, would produce similar results.

ART. 18.—*Symptoms of the Growth of Mediastinal Tumours.*  
By Dr. BURROWS.

(*Medical Times*, June 7, 1851.)

In a clinical lecture on the diseases of the anterior mediastinum, Dr. Burrows points out the symptoms which indicate the presence of a tumour. He says that the earliest symptoms are those of irritation of the respiratory tube; then follow symptoms resulting from pressure on neighbouring parts. There are also the physical signs of some solid in the substernal region.

At first the patient has frequent attacks of urgent dyspnoea, such as is produced by pressure on the trachea and bronchi. These attacks are spasmodic, and the patient is supposed to be the subject of asthma. This distress may subside with or without expectoration. Auscultation at this period offers no diagnostic information. The frequent repetition of these attacks is soon followed by another train of symptoms which are the result of pressure on the vessels adjacent. The cutaneous veins about the upper sternum and one clavicle become more conspicuous than natural. This is more frequently noticed about the right side than on the left. The external jugular, the thyroideal, the mammary, and thoracic veins successively enlarge, remain constantly turgid, and become tortuous. If the course of the current, in some of the enlarged superficial veins on the thorax, be ascertained by means of pressure at different points, it will probably be discovered that the blood is moving in some of them in a retrograde direction to that which is natural. After awhile the superficial veins of one upper extremity become enlarged and conspicuous. This venous congestion is soon followed by œdema of the affected parts; some swelling is now observed on one side of the throat, about the upper portion of one side of the chest of the upper extremity of the same side; and, lastly, if the patient be an adult female, by a gradual enlargement of the corresponding breast. This progressive œdema will at last extend to the face, particularly to the eyelids, which become puffy, while the expression of the eyes is peculiar. They have a glassy, watery look, with rather dilated pupils, which state of the eyes is not unfrequently observed in cases where there is an obstruction to the passage of blood through the right cavities of the heart, and which condition of the iris may at will be temporarily induced by holding the breath for a long time and thus preventing the flow of venous blood into the thorax. And now, thirdly, we shall, by careful and repeated auscultation and percussion, detect physical signs which denote the presence of some solid beneath the sternum, which transmits the heart's sounds far beyond their proper limits, and which seriously impairs and modifies the healthy respiratory murmur in the upper lobe, and subsequently, perhaps more extensively, of one lung. The heart's sounds will be heard distinctly to the summit of the sternum, and to a varying extent beneath the right clavicle, but without the peculiar blowing sound which is generally heard over a large aneurismal sac. There is no pulsation in the intercostal spaces, nor over the sternum. The trachea is sometimes displaced, the vesicular sound is lost, and is replaced by bronchial breathing. As the case advances, these auscultatory signs become confirmed and extended. There is greater impairment of respiratory murmur. Percussion gives a dull sound all over the sternum, over the greater part of the affected side, while resonance is obtained by percussion in the axilla of the affected side.

## SECT. III.—DISEASES OF THE CIRCULATORY SYSTEM.

ART. 19.—On *Angina Pectoris*. By JAMES KIRK, Esq.*(Medical Gazette, Aug. 29, 1851.)*

*Definition.*—Neuralgia of the branches of the par vagum, going to the heart and lungs; embarrassing the functions of these organs, and spreading by nervous connexion to other parts, sometimes accompanied by organic lesion of the heart or great vessels, sometimes not.

*Causes.*—Predisposing; the middle age, the male sex, an indolent, luxurious, studious, or sedentary life; gout, rheumatism, or neuralgia; or worse than these, the long-continued anxiety of mind and fatigue of body, to which persons of high mind and narrow circumstances are, in the present state of society, so constantly exposed.

*Causes.*—Exciting, running, walking, especially up hill, or up stairs, great bodily exertion or mental excitement, and rapid changes of temperature; thus we most frequently see a severe attack after great exertion, a fit of passion, or on the evening of a cold wet day. As the disease increases in severity it will be found that slighter causes are sufficient to produce an attack; and that any one of them will occasion a seizure much more certainly after a meal. Finally, when the disease has become chronic, it may even attack the patient in his sleep.

*Symptoms.*—In the acute form of the disease the patient is suddenly seized with a sharp, darting, lancinating, or stabbing pain under the left breast, frequently spreading to the throat, arm, back, and leg of the same side; this pain frequently amounts to the most excruciating agony, and has been compared by Laennec to the piercing with nails, or the laceration by the claws of animals; and is accompanied by a sense of suffocation, great difficulty of breathing, tendency to syncope, and flatulent distension of the stomach followed by eructations; together with the fear and the feeling of immediate death.

The pulse varies in different individuals; sometimes it is regular, sometimes irregular, sometimes weak, sometimes strong; but generally feeble and slow. After lasting for a longer or shorter time, proportioned to the severity and duration of the disease, the attack generally passes off spontaneously, or yields to the remedies employed.

A feeling of weakness and numbness sometimes remains for a little in the parts previously affected with pain; but with this exception the patient may enjoy tolerable health, and show no sign of disease until again exposed to some of the exciting causes.

In the chronic form of the disease the attacks are often preceded by yawning and weariness; they are now more readily excited; the interval between them also is shortened, and the relief obtained afterwards more imperfect; the pain commonly lasting longer, but being less violent. In addition likewise to the anginous paroxysm the patient generally suffers from some other allied disorder of the nervous, digestive, or circulatory system, which may have been either a cause or a consequence of his malady; tic, dyspepsia, constipation, diarrhoea, (leucorrhœa, if the patient is a female,) œdema, dropsy, or organic disease of the heart, may also be present to increase his suffering and diminish his hopes of recovery.

*Diagnosis.*—The only disease which bears any resemblance to angina is asthma; but the sharp pain in the breast and arm, and the sense of suffocation characteristic of angina, can hardly be mistaken for the dyspnoea, cough, and expectoration of asthma.

*Prognosis.*—Angina is a disease not necessarily fatal when occurring in young subjects with no organic disease of the heart; but when it occurs in elderly people with organic disease of the heart or great vessels it is always mortal. In



such cases, indeed, the organic lesion may be quite sufficient to account for the death of the patient, independent of the angina.

*Pathology.*—In the great majority of cases in which an inspection has been obtained after death, the heart or large vessels have been found diseased; but their pathological condition has been by no means constant or uniform. In some cases organic disease of the heart, the aorta, or the coronary arteries, have been found; in others, ossification of the coronary arteries, ossification of the valves, ossification or dilatation of the aorta, or preternatural softness of the heart, have been discovered after death. Indeed, in the words of Dr. Unwins, "there is scarcely any malformation of the heart or its blood-vessels that has not been occasionally found after death, from what would be considered angina pectoris; while, on the other hand, individuals have fallen victims to the affection, fully marked, and the most accurate post-mortem examination has not been able to detect the slightest indication of structural derangement." In other cases, again, according to Dr. Copland, the only morbid appearances have been found in distant organs; the heart and large vessels remaining sound. These appearances were "adhesions of the pleura; effusion into the pleura; thickening of the bronchial mucous membrane; dilatation of the bronchi; œdema of the lungs; abscess in the mediastinum; ossification of the cartilages of the ribs; enlargement of the liver, and scirrhous of the pylorus."

But, on consideration, it will be obvious that we must look to some other cause than the organic lesions just mentioned for an explanation of the terrible agony endured in this disease; seeing that singly and by themselves they do not account for it.

For, in the first place, these lesions are of very frequent occurrence, while angina is a rare disease; 2dly, these lesions are for the most part permanent conditions of the parts in which they occur, while this disease is intermittent; 3dly, these lesions may be present and the disease absent, or conversely, the disease may be present and the lesions all wanting; while in none of them does the patient endure the same amount of suffering as in angina; 4thly, we have seen a case in which tic preceded angina, or, in other words, the patient had neuralgia of the branches of the fifth pair going to the face, before those of the eighth (going to the heart) were affected by the same disease. These, and other reasons that might be mentioned, serve to show that something more than an organic lesion is required to constitute the disease under consideration, and to confirm the opinion of Jurine, Desportes, Laennec, Chapman, and Copland, that it is a species of neuralgia of the pulmonary and cardiac nerves, affecting the functions of the heart and respiratory organs, and extending by nervous connection to other parts; the organic lesions found in fatal cases being either coincidences or effects of the disease.

*Treatment in the attack.*—If the pulse is full and strong, and the patient stout and plethoric, bleeding from the arm should be practised; but if the patient is weak and debilitated, and the pulse feeble and slow, it should be altogether avoided. And instead of bleeding, a flannel wrung out of hot water and sprinkled with turpentine should be placed over the region of the heart; the feet put in hot water containing mustard, and sixty drops of laudanum given immediately in a glass of any strong spirit; if relief is not speedily obtained, this dose may be repeated with perfect safety; and sometimes acts like a charm in relieving the pain. This should be followed by the exhibition of some antispasmodic and carminative, such as ether, aromatic spirit of ammonia, or ammoniated tincture of valerian in cinnamon or mint water, in order to assist the stomach to expel the gas which distends it; these should also be given after bleeding in those cases in which it is practised, for when greatly distended, as it commonly is in this disease, the stomach pushes up the left side of the diaphragm; this diminishes the capacity of the chest, and so impedes the movements of the heart. It is not to be supposed, however, that the distension of the stomach is the cause of the pain in the breast; for the pain at the heart is felt before the distension of the stomach is complained of.

*Treatment in the interval.*—In the first place it will be absolutely necessary to discover, by the most careful examination, what are the predisposing and exci-

ting causes of the disease, in order to avoid them if possible, as well as to determine the actual condition of the heart and lungs by means of the stethoscope.

For example, attention should be paid to the patient's habits and manner of living; the state of the stomach, bowels, liver, (and uterus if a female;) the condition of plethora or anæmia, and the predisposition to gout, rheumatism, or neuralgia; in short, every appreciable disorder of the system is to be met by the appropriate remedies and corrected as far as possible. If the stethoscope should enable us to discover any abnormal condition of the heart, the treatment must have a special reference to that condition; of course, where there is serious organic disease of the heart, a cure is not to be looked for; here the utmost we can do is to palliate the urgent symptoms. The remedies which have been found most useful are leeching, or cupping and counter-irritation over the region of the heart, by means of croton oil liniment, tartar emetic ointment, repeated blisters or issues, with low diet in the cases of stout plethoric individuals. With weekly debilitated subjects an opposite plan of treatment ought to be followed; tonics, such as bark and steel, should be exhibited with nourishment and cordials. Various other medicines have been recommended in angina; the preparations of iron, sulphate of zinc, nitrate of silver, arsenical solution, sulphate of quinine, mercurials, and colchicum, may all be prescribed with advantage according to the various indications afforded by the history of each individual case.

In addition to the above, we may mention that Laennec recommended magnetism, and Kneeland electricity; and that Heberden gave an opiate at bedtime when the attacks occurred during the night. Moreover, cases of every variety of complication will be much benefitted by pure air and gentle exercise, together with an entire change of all the habits and circumstances prejudicial to the patient's well-being, in which the disease had its origin.

**ART. 20.—*Diagnostic rules with reference to Cyanosis.* By Dr. NORMAN CHEVERS, Chittagong, Bengal.**

(*Medical Gazette*, Sept. 19.)

Dr. Chevers observes that it is probably impossible to diagnose the particular set of lesions which are present in the vascular system of an infant a few days old. Its heart may be the seat of any conceivable kind of malformation; still, if the child has become cyanosed almost immediately upon the establishment of respiration, it is most probable that it suffers from closure of the pulmonary orifice, with imperfection of the ventricular septum.

Where the symptoms of morbus cæruleus are not developed until some days or weeks subsequently to birth, it is probable that the orifice of the pulmonary artery is narrow, the ventricular septum open, and the foramen ovale and arterial duct either closed or distinctly contracted; or the latter of these passages may have become narrowed or closed, while the former is widely pervious.

If the infant be upwards of a year old, it is in the least degree improbable that it suffers from the malformation usually known as "distribution of the descending aorta from the pulmonary artery."

If the child has survived its fourth year, transposition of the great arteries is scarcely to be suspected.

When cyanosis is present at about the age of three or four years, it is probably due, either to great contraction, or closure of the pulmonary orifice, with ventricular communication. Should a single systolic bruit be heard superficially in the region of the pulmonary orifice, the case will almost certainly prove to be one of the former kind.

At the age of one month, or at any subsequent period, it cannot be judged with any probability that the heart literally consists of only two cavities.

In early infancy there are no means of diagnosing between imperforation of the pulmonary artery and transposition of the two main arteries, except that the former irregularity is of far more frequent occurrence than the latter.

If the patient be above the age of seventeen years, imperforation of the pulmonary orifice can scarcely be suspected.

A person above the age of sixteen years, or a young adult, suffering from cyanosis of long standing, a bruit being audible in the region of the pulmonary artery, most probably has contraction of the orifice of that vessel, with perforation of the septum ventriculare.

If the individual has passed the period of early youth before becoming the subject of cyanosis; or if that symptom, formerly scarcely perceptible, has become considerably more apparent of late, it is, at first sight, probable that the disease is congenital narrowing of the pulmonary artery, the impediment having latterly been increased by thickening and further contraction of the parts, consequent upon superadded disease. In this case the ventricles probably do not communicate.

If the patient has passed the age of thirty years, the existence of congenital deficiency of the ventricular septum is highly improbable. Those who suffer from a congenital cause of obstruction which has originally been sufficient to arrest the development of the septum, very rarely, if ever, attain so advanced an age.

If, in any given case of cyanosis, the symptoms be ascribed solely to a patent condition of the foramen ovale, the incorrectness of that diagnosis will certainly admit of proof upon examination of the body.

[The larger number of the above diagnostic rules will, doubtless, occasionally fail; but Dr. Chevers believes that they afford as near an approximation to the truth as we are at present capable of obtaining when attempting to generalise upon a disease so multiform in its types, and, at the same time, subject to so few variations in its rational symptoms, as congenital malformation of the heart.]

**ART. 21.—On some of the Complications of Cardiac Disease.** By EDWARD LATHAM ORMEROD, M.D., Physician to the Brighton Dispensary.

(*Medical Gazette*, April 25.)

[The following is a continuation of the Gulstonian lectures, portions of which we extracted in our last volume. The complications here mentioned are the cerebral, pulmonary, and abdominal.]

1. *Cerebral complications.*—To the description of the cerebral complications of disease of the heart which Dr. Burrows has given us, there is little to add. Dr. Ormerod would only, as having drawn his experience from the same field—namely, the wards of St. Bartholomew's Hospital,—express his confirmation of the correctness of that writer's remarks.

Of the frequency of the connexion between apoplexy and valvular disease of the heart there can be no doubt: it has been made matter of arithmetical demonstration. But it is surprising how what is now so clear should have so long remained unknown, or have been even denied; and the probable reason of this circumstance, as involving a great point of pathology, is worth investigation.

Lallemand says that in no cases of apoplexy which he has read or observed has he ever found contraction of the aortic orifice, which yet he considers to be the most common cause of hypertrophy of the heart. For that, under these circumstances, the increased force of the heart is lost in overcoming the resistance occasioned by the contraction, and does not affect the brain. Hence he infers that it is only in cases where the obstruction causing the hypertrophy does not lie between the left ventricle and the carotids that sanguineous apoplexy can ensue; and he adds that it is not usually in the apoplectic cases of heart disease that we observe the livid lips and cheeks, or the œdema, which point to obstruction of the circulation in the veins.

As far as the above statement goes, Dr. Ormerod believes it is literally correct. Real sanguineous apoplexy is very rare under the circumstances; but the symptoms of apoplexy—sudden coma and hemiplegia, for instance—are not

quite so rare in connexion with advanced valvular disease of the heart as might be supposed from a less literal interpretation of Lallemand's statement. What, then, is the nature of the changes on which the symptoms depend?

There appears, from all that Dr. Ormerod has been able to observe or to read of the observations of others, no reason to question the accuracy of the conclusion which Dr. Burrows has expressed, that "hypertrophy of the left ventricle must be admitted as a powerful predisposing, or even exciting, cause to apoplexy, and sudden hemiplegia."

But where the hypertrophy is not more than sufficient, from whatever cause, to make good the valvular imperfection, we should be wrong in expecting *commonly* to find the results of increased arterial pressure. And sanguineous apoplexy, as already observed, is rare under such circumstances: from whence we may also infer that venous congestion is not one of its common causes.

The evidence of the other writers, as far as Dr. Ormerod has been able to consult them or the conclusions for them, is negative on this point: but at least it may be inferred from their silence that they did not connect sanguineous apoplexy with advanced and obvious diseases of the heart. An analysis, however, of the cases detailed by Andral and Bouillaud, the most available, for the present purpose, of those invaluable masses of detailed observations in which the French medical literature is so much richer than our own, give a very striking result, which goes far to explain the cause of the discrepancy between former and more recent observation as to the connexion between the symptoms of apoplexy and those of valvular disease of the heart.

From these two writers twenty-eight observations may be collected of cerebral disease of limited extent accompanying disease of the heart. Fourteen of these cases had softening of, and fourteen had sanguineous effusion into, the substance of the brain. This different nature of the changes may be observed to present a close correspondence with the varying amount of the symptoms of the valvular lesion. Of the exact nature of the valvular lesion itself, however, the details do not always allow us to speak. The cases may be thus arranged:—

#### *Sanguineous Apoplexy.*

|                                   |   |
|-----------------------------------|---|
| Andral 11 cases, age 57·5 . . .   | { 10 had no general symptoms of valvular disease, the heart being more or less hypertrophied. |
|                                   | { 1 had anasarca.   |
| Bouillaud 3 cases, age 54·6 . . . | { 1 no general symptoms, &c.  |
|                                   | { 1 anasarca.   |
|                                   | { 1 pulmonary complication.   |

#### *Cerebral Softening.*

|                                   |  |
|-----------------------------------|--|
| Andral 8 cases, age 59·2 . . .    | { 4 no general symptoms.                                     |
|                                   | { 4 anasarca, dyspnœa, &c.                                   |
| Bouillaud 6 cases, age 32·3 . . . | { All had more or less general symptoms of valvular disease. |

The general symptoms of valvular disease were therefore,—

|                      | Apoplexy. | Softening. |
|----------------------|-----------|------------|
| Present in . . . . . | 3         | 10         |
| Absent . . . . .     | 11        | 4          |
|                      | <hr/> 14  | <hr/> 14   |

Dr. Ormerod fears to weaken the force of the conclusions of this table by any comments, or by any verbal expression of what the figures so clearly convey.

His experience on this subject, though very limited, is quite in accordance with the above. Of four cases of dissection after death from sanguineous apoplexy, with disease of the valves of the heart, the valvular affection was small in degree and simple in kind, and the heart had met the imperfection by hypertrophy of its muscular walls.

Of four dissections after death from extreme disease of the heart, with cerebral symptoms—namely, hemiplegia—in two there was softening of the brain, and in two no explanation at all was found of the paralysis, which, however, it should be noticed, happened in one of these eight months before death, and had been recovered from.

Dr. Ormerod believes that, without analysing other series of cases, he might confidently appeal to each one's experience for a confirmation of the statement, that it is in comparatively early cases, where the general symptoms of heart disease are scarcely developed, that sanguineous apoplexy most commonly occurs; not in those patients whom a cold winter sends into our hospitals, loaded with dropsical accumulations, and with venous blood,—cold, livid and struggling for breath. These are rather the subjects of softening of the brain, or of serous effusion, than of sanguineous apoplexy.

If this be correct, it is easy to see how the connexion between valvular disease of the heart and apoplexy may have been overlooked at a time when neither auscultation nor morbid anatomy lent such aid to pathology as at present in the recognition of the physical signs and morbid changes, respectively, of valvular disease. And it is, moreover, easy to see how, when this connexion was asserted, it should have been denied, on the unjustifiable grounds, that, if the two diseases were really connected, the greater the disease of the heart the more frequent should be the occurrence of apoplexy. But, indeed, the question was not capable of a true solution on such grounds; and a more thorough examination of a correct premises has returned a different answer.

There are other affections of the brain depending on valvular disease besides those which leave organic traces in the forms of cerebral softening and apoplexy. In some of these venous congestion plays a considerable part, while others seem referable to increased arterial pressure. Dr. Latham has described two of these. He speaks of a state of things where "the heart, by the simple vehemence of its action, has the power to kill, and to kill through the medium of the brain." There is intense headache, sleeplessness, delirium, and death by exhaustion. This is the effect of increased arterial pressure, which we must carefully discriminate by the history of the case, and the character of the pulse, may be (for auscultation will help us but little) from the symptoms of simple exhaustion; for the alternative of life or death may depend on the correctness of our diagnosis.

Another form of disease presents the symptoms of apoplectic coma, suddenly supervening, when it passes away, leaving no paralysis behind. Here "neither ærum nor blood has been let loose upon the brain. The whole mischief is effected by the blood still within its proper vessels, by its congestion, retardation, or remora." In this case "the disease of the heart consists of passive dilatation."

Then there are all the symptoms, if not actually attaining to either of these conditions, at least of sufficient importance to demand especial notice,—such as headache, vertigo, drowsiness, mental anxiety, and the spontaneous relief of these—epistaxis. There is epilepsy, always terrible, and not least so when connected with such a hopeless cause as valvular disease of the heart. And there is syncope—a symptom closely connected with advanced disease of this organ, and not uncommonly the mode of its fatal termination. To this, under the head of failure of the heart's action, there will be occasion to recur.

There is little to be added to what Dr. Burrows and others have told us of the pathology and treatment of these affections. As far as a few words can express a general rule of practice in these cases, it is this:—In all cases of disease of the heart we can scarcely pay too much attention to cerebral symptoms which might seem trivial when viewed in connexion with disease of any other organ. Under these particular circumstances, drowsiness, headache, and even mental

anxiety, claim a consideration which they do not ordinarily possess; and the rule of letting secondary symptoms alone, unless they are dangerous to life, does not apply, for the contingencies which these point to really are dangerous to life in the highest degree.

But when, from whatever cause, the symptoms to be dreaded—namely, those of apoplexy—have supervened, the rule must in some sort be reversed. Now the care must be, not to over-treat the organic disease, as it was before not to under-treat the threatening symptoms. For, not to do more than mention the danger arising from the excessive reaction of an hypertrophied heart on the injured brain, it must be remembered that the lesion may be either softening or sanguineous effusion. And without expressing any definite opinion as to the essential nature of softening, it approaches too near to that of gangrene for us to venture rashly on reducing the already weakened constitutional powers by over-active treatment.

**2. Pulmonary Complications.**—The pulmonary affections dependent on valvular disease of the heart may be either primarily referable to venous obstruction, or they may be contingent thereupon. Of this latter class are pneumonia and bronchitis, pleural effusion, or pulmonary œdema; and to these must be added, though its practical importance could scarcely demand even this passing notice, pulmonary apoplexy.

It is not so easy to assign an exact place to pulmonary emphysema among this class of complications of valvular disease. Probably in the majority of these cases, it is only secondary to the pulmonary obstruction, chronically and generally resulting from causes similar to those which induce its development in an acute form in the uninflamed parts of the lungs of children suffering from pneumonia. We habitually connect the idea of common asthma with pulmonary emphysema, with which so often, and so often with which alone, it coincides. But in the more complex case of cardiac asthma, Dr. Ormerod thinks we need to be reminded of the separate value of emphysema as a possible element of the mixed results which we are called upon to treat under this name. He would not anticipate on this subject what falls under the head of the treatment of abiding pulmonary obstruction. He would here only point to the existence of pulmonary emphysema, as explaining, in some cases, much of the dyspnoea attendant on valvular disease, and in that exact proportion it must be added, limiting our expectations of the curative effects of our remedies.

With regard to the other complications separately; and first to pleural effusion. Of this the author says little, because the knowledge of its existence in nowise affects the treatment or the prognosis of the cases in which it occurs. He considers it a very serious complication, but his observation has not led him to think worse of the case in which it is found than of others, where large effusions exist in the areolar tissue or serous cavities. Nor has observation shown him any more particularly successful method of removing it.

Pneumonia arising under these circumstances has more claims to distinct notice. When occurring at an early period of valvular disease, it is, as far as Dr. Ormerod has seen, very amenable to the ordinary medical treatment, but singularly liable to recur after its removal. More commonly, however, it occurs at a later period, under conditions which forbid any treatment especially directed for its removal. The very unfavourable nature of its prognosis under such circumstances is explicable, partly on general grounds, and partly by the tendency which it then displays to run into the third stage. More than all the other pulmonary complications of valvular disease, pneumonia is to be considered in the light of an accident,—but as an accident of the most serious nature, always more and more liable to recur, and always more and more dangerous on each recurrence.

As to the other forms of pulmonary secondary complication—namely, bronchitis and pulmonary œdema—their consideration cannot well be separated from that of their immediate cause—their primary form, pulmonary obstruction; for, practically, they are little more than aggravations of this habitual condition, whether we regard their symptoms or their several characteristic morbid changes.

Without underrating all the means and appliances for arriving at, and availing

ourselves of a more accurate diagnosis, Dr. Ormerod believes that he should be vaunting a refinement which can find no place in practice, if he spoke of anything more definite on this subject in connexion with valvular disease of the heart than pulmonary obstruction. Nosological distinctions almost entirely fail us here, as after death by fever. They cannot be accurately maintained in the gorged œdematous, and obstructed lung, by dissection; and they certainly do not afford us the safest ground for treatment. The general principles of treatment, and what each of these affections has in common, claim attention rather than the specific differences which secondary causes may have developed in the individual case.

Pulmonary obstruction, then, to adopt this most general term, may be considered in two points of view,—as a temporary or as an abiding condition. Its symptoms as a temporary condition, induced suddenly by violent exertion, or other passing cause, are familiar to us all. It is an accident to which all are more or less liable; and art can do little more, whatever the cause, than aid in maintaining that perfect rest which nature does her best to enforce. But when pulmonary obstruction, though it be temporary only, is induced by the ordinary exertions of life, itself becomes a matter of serious consideration, and the detection of its cause of the highest importance.

On the present occasion we have only one cause to deal with,—namely, valvular disease of the heart. Under these circumstances, it is but a short stage from these temporary attacks to that affection known as winter cough, when the obstruction is present for a considerable portion of the year. And another still shorter step brings us to where this has become the abiding state of things, on which attacks of bronchitis or pneumonia are engrafted from time to time, and under one or other of which life at last terminates.

Still, however short these stages may be in the treatment of such a case, apart from all other considerations, the question of the temporary or abiding nature of the pulmonary obstruction is of importance. For if it be only temporary, we may venture on more active measures, trusting to the reparatory powers of the constitution during the interval before the next attack, than we could do if the diseased condition were permanent.

The mode of relief which nature adopts in cases of pulmonary obstruction, that, namely, by local extravasation of blood inducing hæmoptysis, is the most direct. But there are many objections to allowing the congestion thus to relieve itself. For the existence of blood and serum in the bronchi tends largely to aggravate the obstruction to respiration. And its removal necessitates frequent violent exertion in coughing. For the serous effusion, to bring relief, must be very abundant, and the expectoration frequent and copious. And though serous excretion may be easy enough, yet blood so effused does not usually come up quietly, being loose, as we say; but it is tenacious, being bound up with the glairy mucus which results as a secretion from that condition of parts which induces the hæmorrhage. The relief obtained by abstracting blood, less directly than from the congested membrane itself, may not be so great, but it is incomparably safer, and cupping or leeches to the chest will generally effect the object in view of relieving present pulmonary obstruction. This, however valuable, is yet a mode of relief which we cannot indiscriminately adopt; its fittest application is to the cases where at present the affection is only temporary.

With regard to abiding pulmonary obstruction in connexion with valvular disease. Such a case is hopeless from the beginning; all that can be done is to palliate present suffering, or to remove present danger. Obviously, therefore, nothing but the most absolute necessity should induce us to do anything which might at all tax the constitutional powers of the patient. If the vessels are overloaded they may be relieved by cautious abstraction of blood. If the bronchi are obstructed with glairy mucus, or with abundant secretion, they, too, may be indirectly relieved by expectorants and diuretics, either to facilitate the removal of the viscid mucus, or to draw the watery discharge from the blood to another quarter. Or, if present danger to life threatens, we must of course, without regard to more remote dangers, relieve the suffering organ by whatever means, and at whatever cost to the constitution. But if rest and warmth alone

will enable the lungs to bear the burden of the circulation, these simple means should be trusted to; for a diarrhoea or a diuresis, the next available means, though powerful instruments for good, cannot be maintained without great exhaustion. They are instruments, moreover, which act with most effect on their first application. It is of the utmost importance to know that such a patient is most readily acted on through his bowels, and such a one through his kidneys, and by such particular remedies: but this knowledge need not be always put in practice. It is only for what warmth and rest will not, or do not appear likely to do, that abstraction of blood, diuretics, purgatives or expectorants, should be employed under such circumstances.

But though we are sorely straitened in our use of means of relief, by the knowledge that the pulmonary obstruction is an abiding condition, this very circumstance, the habitual presence of the malady, enables us to employ a remedy which under other circumstances would not be available. In such cases we may safely employ opium in the face of symptoms which would otherwise contraindicate its use, and by its means produce a night's rest with present safety and ulterior benefit. And it is no little thing to say that opium is not quite a forbidden remedy in cases of abiding pulmonary obstruction dependent on valvular disease.

How different is the pathology and treatment of the pulmonary and cerebral complications respectively of valvular disease! The brain, as we have seen, may suffer from increased or diminished arterial pressure, or from venous obstruction, and of these the first two are of infinitely the greatest importance. The lungs, on the contrary, suffer, in a large majority of cases, under the like circumstances, from venous obstruction. The cerebral complication is in truth rightly so called, for its occurrence tends only to augment the amount of disease. But in the pulmonary affection we may often recognise a spontaneous attempt at the relief of the labouring heart. Could it well be otherwise than that the treatment of the two should present an equally striking contrast with their pathology? It is so. In the one we do all, even by excessively active treatment, to prevent; for we can do but little to cure, even if the immediate danger be escaped. In the other, too, we may try to prevent; but so far from leaving the actual lesion entirely to nature, observation shows that the best mode of reaching the heart is to direct our treatment to it through the lungs, irrespective of the degree of prominence of the pulmonary symptoms.

It might almost seem, Dr. Ormerod continues, from what has been said thus far of the cerebral and pulmonary complications of valvular disease, that the treatment resolved itself into a simple question, of how much depletion the patient could bear? Not so. But at least depletion is the most important and most available means in such cases. For the other complications our remedies are more numerous, and, as usual, under such circumstances, of less certain application.

*Abdominal Complications.*—It is only from their position in the same cavity of the body, not from anything else which they have in common, that the secondary affections of the abdominal viscera are here classed together. For valvular disease of the heart acts injuriously in a very different way on the solid, to what it does on the hollow viscera of this cavity.

Of the importance of the structural diseases of the liver and kidneys, which coincide with valvular disease of the heart, there can be no doubt, were it only for the share they have in inducing dropsy under such circumstances. But in many cases these changes should be placed side by side with the cardiac disease, rather as parallel effects of some common cause, than as resulting, themselves, from the obstruction to the circulation. Such Dr. Ormerod believes is their true pathology in most, and these the most important, instances. But it is, he says, scarcely the place to discuss the principles of their pathology here. Its explanation is a part of that great problem of the effects of chronic inflammation, and degeneration of the products of previous disease, on organic tissues, which is now being worked out by so many independent observers. We scarcely appreciate the importance of the results already obtained, from their having so insensibly grown upon us, and incorporated themselves with all our previous pa-



thological knowledge, which they at once illustrate and advance. The pathology of these structural changes forms part of a great subject, of which valvular disease of the heart is itself but a branch. But as it would exceed alike his limits and his purpose to discuss them here, the author restricts himself to those few remarks which the secondary affections of the stomach and intestines, and the functional lesions of the solid viscera seems to require.

Constant vomiting and pain in the epigastrium are not unfrequently met with. But for the uncertainty which hangs over the interpretation of the morbid appearances of the gastric mucous membrane, one would feel inclined to connect their symptoms with the intense congestion which this membrane often displays in fatal cases of valvular disease. The remedies which have appeared to the author most deserving of confidence in the treatment of the epigastric pain, are dry cupping, and especially blisters. In attempting to allay the vomiting dependent on valvular disease, Dr. Ormerod has not observed any particular medicaments to possess specific properties in this respect, apart from the general indications on which they have been prescribed. Only once he saw the alkalies, empirically administered for the relief of obstinate vomiting dependent on such a cause, produce much more good than any peculiarity of the case could have led him to anticipate.

Diarrhœa is not a common accompaniment of heart disease; on the contrary, constipation is much more frequently met with. But it has much interest in connexion with advanced valvular disease, as being at times the cause of sudden death, under these circumstances, through exhaustion and syncope. This is particularly the case in children,—as far, at least, as induction from a limited number of cases, and a general impression from a more extended observation, would allow an inference. The fact, however, whether observed in children or adults, is explicable on the principle previously adduced, that life maintained under difficulties is destroyed at last by the most trivial causes. We find parallel illustrations in the trivial causes which may suddenly destroy those whose respiration has been long impeded by some tumour or laryngeal affection. And a more painful illustration is found in the rapidly fatal effects on the aged inmates of workhouses, of a slight fall of the external temperature.

With regard to the treatment of the diarrhœa there is nothing to say, for there is nothing peculiar in it, except this one possible contingency of syncope.

#### SECT. IV.—DISEASES OF THE CHYLOPOIETIC SYSTEM.

##### ART. 23.—*On Dilatation of the Stomach and Sarcina Ventriculi.*

By R. B. Todd, M.D.

(*Medical Gazette*, May 3, 1851.)

The following is an abstract of a lecture upon a case of chronic vomiting, believed to depend on organic disease of the stomach. The patient was a literary man, who had long suffered from dyspepsia, indicated by acidity, flatulence, and vomiting. For a year before admission he had been subject to palpitation.

When he came into the hospital he was in a very hemorrhagic condition; he had purple spots on his legs and arms, and a scorbutic appearance generally; this agreed with the account he gave of himself, as having been reduced by bad living. He was accordingly treated for this scurvy, and took citrate of iron, and better food; his symptoms, however, did not improve, and he suffered much from vomiting. This vomiting came on every day, three or four hours after dinner, when he threw up all the contents of his stomach, nor would he obtain ease till the *whole* had been ejected; he would then remain quite comfortable till

another hearty meal, three or four hours after which the same process would be repeated. In this way he went on, constantly throwing up his meals, being tolerably comfortable whilst eating them, and for a short time after, until the process of digestion had commenced, when the pain would begin, and would resist all means of obtaining relief, until by vomiting he had completely emptied his stomach.

A remarkable point in connection with this case was the nature of the matter vomited; it closely resembled yeast in a high state of fermentation; whatever he took—meat, vegetables, bread, the matter vomited had always the same appearance. This very much attracted Dr. Todd's attention, for he had seen this kind of vomiting before, in cases of organic disease of the stomach, and the long continuance of pain and other symptoms of deranged stomach function strongly denoted disease of that organ. On examining with litmus the matter vomited, it was found intensely acid, and microscopic examination detected in it a number of small particles, to which attention was first directed by Professor Goodsir, of Edinburgh, and to which he has assigned a place in the vegetable kingdom. These particles are little square plates, divided by two or more lines into parallelograms, and these lines again crossed at right angles by others, dividing the surface into little squares, and causing the appearance which a wool-pack would bear from being tightly bound by cords crossing each other at right angles. This appearance suggested for them the name—*Sarcine Ventriculi* (from *sarcina*, a bundle or wool-pack). In every instance where the ejected matter presented the yeast-like appearance and was acid, we found these *Sarcine* present in considerable numbers. There were also several *torula*, and numerous starch grains and debris of meat and vegetables.

On examination of the epigastrium no tumour of any sort could be discovered, but percussion showed that the stomach extended to an unparalleled degree over the abdomen. Having ascertained this fact, the author comments on the causes which might induce this condition. It may, he observes, originate in over-feeding, but could not have done so in the present case; a more likely cause he considers to be ulceration with subsequent cicatrization and contraction of the pyloric extremity. The rationale of the case in fact is, according to Dr. Todd, as follows:—"This man had an ulcer in the pyloric portion of his stomach as long as five years before his admission into the hospital; this was the source of his first attack of hemorrhage. Some time afterwards another ulcer formed in its neighbourhood; the source of the second attack of hemorrhage. Both these ulcers have cicatrised, and have caused a stricture of the pylorus. As the food can pass through this stricture only in small quantities it accumulates in the stomach, and that organ has been dilated by these successive accumulations, and it can relieve itself only by forcibly ejecting its contents by vomiting from time to time. So long as the obstruction exists, the stomach will continue to dilate, unless the patient acquires the habit of limiting very exactly the quantity of his food; and, if he lives long enough, it may acquire an enormous size."

That the symptoms were not due to cancerous disease, the lecturer thinks may be assumed by the protracted duration of the case, and the marked improvement in the symptoms which took place during his stay in the hospital.

The treatment to which the patient was subjected is thus described by Dr. Todd:

"At first I tried to treat him for this scorbutic state; but the urgency of the gastric symptoms forced me to direct exclusive attention to the stomach. Having tried effervescent medicines and hydrocyanic acid without benefit, I gave him small and frequent doses of creasote and morphia in pills, restricted the quantity of liquids and solids within very narrow limits, and limited his food to milk in small quantities; lean meat, also, in very small portions, with a very little bread. The principle by which I was guided in the adoption of this plan is one which I recommend you to keep in view in the treatment of all diseases of the stomach accompanied by obstruction at or beyond the pylorus: it is this, that you should feed your patient on substances which are capable of being dissolved in the stomach and absorbed by its walls, and which do not need the aid of any other portion of the alimentary canal for their digestion. Now milk, and meat, and the gluten

of bread admit of being thus digested; and it may be stated, generally, that all azotised or proteinaceous food, if due regard be paid to quantity, need not go beyond the pylorus for its digestion. In the stomach it meets with its proper solvent, and, being once in solution, it may be readily taken up by the blood-vessels of the stomach. But, as I said before, due regard must be paid to the quantity of food given; we must take care not to give more than may be readily dissolved by the amount of gastric fluid which the stomach can easily secrete.

"Again, the patient must be charged to limit himself to the proteinaceous foods, and to take liquid in very sparing quantity. If he take starchy and oleaginous foods, which is now clearly proved are not digested in the stomach, he will accumulate in that organ a quantity of matter upon which it can exercise little or no influence, and which, not finding a ready exit by the pylorus, must excite vomiting; and, if he took too much liquid, he dilutes the solvent fluid of the stomach and impairs its digestive powers, and, moreover, interferes with the absorbing action of the mucous membrane, and, by mechanically burdening the stomach, favours the recurrence of vomiting."

This patient was treated in this manner and with marked benefit. On admission vomiting was almost constant; but afterwards was greatly controlled, and ultimately an interval of eight or ten days would elapse between the attacks of vomiting. The lecturer next directs attention to the vomited matters. He says:

"I must now direct your attention to the vomited matters. They were so peculiar, that you cannot fail to recognise them; they resemble yeast in a high state of fermentation; they were also intensely acid, reddening litmus as muriatic or nitric acid would.

"When the yeasty matter was vomited the little particles of *sarcinæ* were always present; when the other kind of vomiting took place, and especially if it was alkaline, these particles were not present. My clinical clerk, Mr. Beal, watched these points with great assiduity from day to day, and invariably found it as I have described, the presence of the *sarcinæ* being clearly associated with the fermenting condition of the vomited matters.

"What are these *sarcinæ*? Professor Goodsir, who described and named them, places them in the vegetable kingdom, comparing them with certain forms of the genus *Gonium*, with which the zoologist is familiar. This genus, Professor Goodsir believes, as I think with justice, contains both animal and vegetable species,—the former characterised by oral appendages and voluntary movements, the latter by their simple cellulose-globular formation. To these latter, or the vegetable species, *sarcinæ* may be referred.

"Are we to look upon these *sarcinæ* as parasites in the human body? as causes of the stomach symptoms under which the patient labours? or as consequences of a certain morbid condition of the stomach?

"It appears to me that the weight of evidence would justify our regarding the *sarcinæ* much in the same light as we do the *Torula fermenti*, or yeast-plant,—namely, as accompaniments of a certain form of fermentation. Whatever causes would favour the development of this kind of fermentation, would favour the development of *sarcinæ*; just as, when you place a quantity of diabetic urine under favourable conditions as regards temperature, it becomes speedily filled with enormous multitudes of *Torulæ*.

"Is there any particular condition of the stomach with which the *sarcinæ* are associated more than another? This question I will answer by reference to my own experience of cases in which these organisms were ejected from the stomach. I have now seen seven cases of this kind. In five the presence of *sarcinæ* was ascertained by the microscope; in two I infer its presence from the character of the vomited matters—namely, resembling yeast or wort in a high state of fermentation, and intensely acid to the smell and to litmus, as well as to the taste of the patient.

"The condition of stomach which was common to all these cases was *dilatation*.

The author concludes his interesting lecture with the following general remarks on the *sarcinæ*:

"Any condition of the stomach favourable to the prolonged sojourn of the food in it seems to form one condition at least for the production of sarcinæ. Mr. Busk has related three cases in which he observed these organisms. In two of these there was hernia of the stomach through the diaphragm—a condition which must inevitably interfere with the free action of the organ, and prevent the due transmission of the food in the direction of the pylorus.

"Frerichs found sarcinæ in the matters obtained from the stomach of a dog in which he had established a fistula for the purpose of watching the changes of the food during digestion. The perforation of the stomach, by an artificial opening in it, the edges of which were adherent to the abdominal wall, would certainly not accelerate the transmission of the stomach contents to the pylorus. It is right to add that sarcinæ have been found in the stomach and intestines of the bodies of persons who during life evinced no symptoms.

"Dr. Brinton lately found sarcinæ in the stomach of a patient who died here of diabetes. This organ is usually of great size in diabetic patients, from the quantity of food which they take, especially of liquids.

"The dilatation of the stomach is favourable to the production of sarcinæ only so far as it favours the prolonged sojourn of food in the stomach. The sarcinæ are merely accompaniments of a morbid state of organ which interferes with the free passage of its contents in their natural course. As far as we can see at present, these organisms are as innocuous to the human economy as the torula. Nor, so far as I know, have any special chemical conditions been observed constantly in connexion with the development of the sarcinæ, beyond the generation of a large amount of free acid, which, in Professor Goodair's case, consisted of hydrochloric, acetic, and lactic acids—the two latter in considerable quantity. In both Roger's and Lyon's cases free acid likewise existed in large quantity, which, judging from smell, was probably lactic, or acetic, or both. In Lyon's case, indeed, Mr. Hardwick found a large quantity of free acetic acid. Still, I incline to think that some previous chemical change in the nature of the fluid secreted by the stomach is necessary to the development of sarcinæ. I tried an experiment to ascertain whether a prolonged artificial digestion would give rise to a generation of sarcinæ. A large piece of the mucous membrane of the pig's stomach was placed in distilled water acidulated with a little hydrochloric and acetic acid, and meat, bread, cheese, and a large farrago of ordinary articles of food, were digested in it for three weeks, at a temperature of between 95° and 100° Fahr., but without the production of any fermentation, and with that of very complete digestion. There were no sarcinæ, and probably because the digestion was so complete. This experiment was unsuccessful as regards the production of sarcinæ; but perhaps experiments conducted on a similar principle, varying the acid and the nature of the food, and renewing from time to time the mucous membrane, in order to imitate the renewed secretion of pepsine which occurs in the living stomach, might lead to the discovery of the chemical conditions most favourable to the production of the sarcinæ.

"I would lay it down, then, as the conclusion most interesting to the practical man,—that he need not make himself very anxious about the existence of sarcinæ in the ejected matters as a feature of his patient's malady; but he should learn from it that, from some cause or other, the food lingers too long in the stomach: and he should take measures accordingly, by feeding his patient with small quantities of food, and restricting his diet as much as possible to that kind of food which it is the special office of the stomach to digest or dissolve—namely, animal food.

"As to medicinal remedies, creosote and morphia are those in which I would myself place the most reliance, either separately or conjoined, in order to lessen the irritable state of the stomach, and diminish the frequency of the attacks of vomiting. Alkalies are undoubtedly unfavourable to the generation of sarcinæ, while vegetable, if not mineral, acids probably favour it: but no drug will be found very serviceable without the most stringent rules of diet, as regards both quality and quantity.

ART. 24.—*On the Uses of the Neutral Sulphites in Diseases of the Stomach connected with the production of Sarcinæ Ventriculi.* By W. JENNER, M. D., London.

(*Medical Times*, Aug. 23, 1851.)

A case of the disease described in the last article is made the subject of a clinical lecture by Dr. Jenner. The main symptoms are, copious daily vomiting, flatulence, distension, and the train of symptoms usually referred to malignant disease of the stomach. The yeasty appearance of the ejecta induced the author to examine with the microscope, and he found an immense quantity of *sarcinæ* and *torulæ*. Ordinary treatment failing, he determined to give the sulphite of soda, being led to do so by the known effects of sulphurous acid upon parasitic vegetable growths. The effects were gratifying, as regards relief, but the more ultimate results are not ascertained.

Before taking the medicine the patient vomited daily from 40 to 100 ounces of fluid, loaded with *sarcinæ* and *torulæ*: thus on the 1st of April he vomited 100 ounces; on the evening of the 2d, between 70 and 80 ounces, although he had the same morning, from the action of sulphate of zinc, vomited 50 ounces. No vomiting on the 3d. On the 4th, in consequence of the extreme pain and sense of distension, sulphate of zinc was administered.

On the 5th he took half a drachm of the sulphite of potash early in the morning; in the evening he vomited. On the 6th the dose was increased to one drachm. On the 7th he vomited 12 ounces only of acid fluid, on the surface of which there was but a small amount of scum: it contained perfect *sarcinæ*; but no *torulæ*.

From the 8th he took three drachms of the sulphite daily, each dose being given in a drachm and a half of water. At six A. M. on the 9th he ejected from the stomach four ounces; the *sarcinæ* were now decidedly less numerous, and there were no *torulæ*. In the evening of the 6th he again vomited, but the vomited matters were now free from *sarcinæ* and *torulæ*, and there was no appearance of fermentation. Between the 9th and 18th he vomited three times, but on neither occasion did the vomited matter contain *sarcinæ* or *torulæ*.

On the evening of the 18th the sulphite of potash was omitted; and on the 19th he vomited a fluid in a state of fermentation, containing *torulæ*, but no *sarcinæ*. On the 20th he vomited 9 ounces of a similar fluid; these specimens were examined by a most trustworthy observer, Mr. Morris, the physician's assistant. On the 21st there was a thick scum on the surface of the vomited matters, which contained *sarcinæ* and *torulæ* in abundance.

The sulphite of potash, in drachm doses, was again administered; no further vomiting occurred till the 27th, when, without any apparent cause, it recommenced; the vomited matters had their old yeast-like odour and appearance, and were loaded with *sarcinæ* and *torulæ*. Dr. Jenner now began to suspect that the man could not be taking his medicine regularly; but on inquiry no omission could be discovered. The medicine itself was then tested, and it was found that it gave off no odour of sulphuric acid on the addition of a stronger acid. At the dispensary we learned that a fresh stock of the drug had come in on the 20th. On submitting a specimen to Mr. Graham, he found that it contained no trace of sulphurous acid. At his suggestion, Dr. Jenner prescribed from this time the sulphite of soda, a more stable salt, and one less liable to be decomposed either in the preparation or by keeping.

On the 29th he took half a drachm of the sulphite, which on the 2d of May was increased to a drachm, three times a day. There was no vomiting till the 5th. He now took carbonate of soda, in consequence of a burning pain in the epigastrium; on the 13th, 15th, and 16th he again vomited *sarcinæ*, and the soda was omitted; from this time to the 19th of June the *sarcinæ* disappeared. During these thirty-three days he ejected 230 ounces of acid fluid. During the former eight days the quantity was 380 ounces.

ART. 25.—*Remarks on the Regurgitating Disease.*

By SIR HENRY MARSH.

*(Dublin Quarterly Journal, May 1851.)*

[On the occasion of a letter from Dr. Little to the author, mentioning an instance of this curious affection, the following general observations were given in reply:]

"Since I first called the attention of the profession to the distinction between vomiting and regurgitation, never before, that I am aware of, noticed in print, I have met with it occasionally in its simple form, very frequently associated with other diseases; and I have held it in contemplation to publish additional observations on this interesting, but generally not dangerous affection. The first case which drew my attention to the subject was that of a boy about eleven years old, who appeared in excellent health, yet, without the slightest perception of nausea, brought back after every meal a certain quantity of the food swallowed; enough, however, remained; for the nutritive function was perfect; he was well nourished, and there was full vigour of mind and body. This led me to investigate further. I found regurgitation without nausea to be a prominent symptom in many cases of hysteria; this is the most frequent complication. I found this symptom to prevail in several cases of incipient phthisis in young females of hysterical temperament: a very frequent accompaniment of spinal irritation, either with or without well-marked hysterical symptoms. I found too, that, in several cases of pregnancy, what was called vomiting, was in reality, regurgitation, either without or with only a slight amount of perception of nausea. Also, in many cases of pertussis, I found that the rejection of food after the paroxysm of cough was effected by the act, not of vomiting, but of regurgitation. I was surprised at the number and variety of cases in which regurgitation prevailed; it is, I think, essentially a neural affection. I have met with, at the lowest calculation, twenty cases of it in the female for one in the male. I have often wondered that the distinction, so obvious, and in a practical point of view, so important as that between the muscular acts of vomiting and of regurgitation, should not long since have been recognised, and brought publicly before the profession. Regurgitation is a very remarkable irregularity and perverted—I might say reverted—action of the nerves and muscles of the stomach. As far as my observations have reached, I have been enabled to trace it with certainty, in many instances, to the strumous diathesis, to an imperfection of function, connected, I know not how, with struma. In treatment, the knowledge of this fact is valuable. That which, for briefness, may be termed the anti-strumous treatment, is, as a general rule, the most effective. All that is restorative and invigorating in constitutional treatment is best suited to this affection; hence the value of air, exercise, cheerfulness, the thermo-frigid douche to the spine, well-managed tepid shower-baths, sea air, and, above all, travelling, and change of air and clime, and if with a pleasant party, all the better; also, in some cases, particularly those complicated with any degree of chlorosis, preparations of iron. Chlorosis is frequently accompanied by regurgitation without nausea. I remember one most obstinate case, one of long duration, which yielded completely to the use, both external and internal, of the waters of Schwalbach, in Nassau. In cases of an opposite kind, those in which the hemorrhagic rather than chlorotic diathesis prevails, bark or the salts of its alkaloid succeed best. It is a curious fact, which I have noted in many, but not all cases, that the stomach rejecting food perpetually, tolerates and retains even nauseous medicines. Were I again to publish aught on this disease, I should change its title; I should call it "the regurgitating disease:" for since I wrote the paper in the 'Dublin Medical Journal' (first series, vol. xxiii., page 237), entitled 'regurgitation without nausea,' I have met with many cases of regurgitation *with* nausea. I am now attending an unmarried lady aged 40, hysterical, subject to every variety of nervous disturbance and profuse menorrhagia. She rejects daily a certain portion of her food, unchanged by digestion, morsel after morsel, by the act of regurgitation, not by vomiting. But the peculiarity of her case is, that she suffers from an almost unintermitting nausea; there is no

evidence of spinal irritation, nor is there any uterine disease. I have now under my care also another lady, about three or four years older, a martyr, during the greater part of her life, to most distressing spinal irritation, her back scarred with the cicatrices of former innumerable issues, who, though suffering from very constant nausea, regurgitates by little and little a portion of every meal, but does not reject the food by vomiting.

"In two cases of this disease, now under my care, there exists a most remarkable diminution of the renal secretion, with a copious deposit of urate of ammonia. In one of these the appetite is good; in the other it is extinguished.

"In some cases of this singular affection there is present a symptom which indicates the co-existence of dyspepsia. After a meal the patient is conscious of a sense of fullness—a load, as it is often termed—an oppression at the epigastrium. This state continues to be one of great discomfort, until, by successive acts of regurgitation, so much of the meal is rejected as may suffice to relieve this distressing sense of distension. These are the kind of cases in which the symptoms are greatly mitigated by limiting the patient to a certain number of ounces of food at each meal; the amount must, of course, be different in different cases, but the object should be attained of restricting the patient to an easily digestible quantity, so as to take away the necessity for regurgitation; also, in such cases, advantage is derived from enjoining the recumbent position for an hour and a half or two hours after each meal. Curiously enough, I have observed, in several instances, that a patient so affected may dine out and be exempted, during the excitement of a dinner party, from the necessity of disgorging; such is the wonderful influence of mind over nervous action.

"I have observed, too, that this affection of the gastric nerves is sometimes replaced, and I may say cured, by some other form of neural affection. In one case, severe matutinal nervous headaches were substituted for the regurgitation; when the former were established the latter ceased. In another case (in a patient who ultimately became deranged) regurgitation, intractable and prolonged for months, totally ceased when nervous disturbance and irritation assumed a new form; an hysterical cough, the most loud, roaring, and unearthly in its sounds, dreadful to listeners, not so to the patient, took its place. These facts of substitution elucidate the nature of the complaint. In another very remarkable case, there were first regurgitation, obstinately persisting for many months; secondly, on its cessation, total loss of smell and taste; lastly, aphonia, without any indication, local or constitutional, of pulmonary disease. The aphonia persisted for about three months. This lady I sent to travel. Her last letter announced the restoration of voice and of health generally; the nerves of digestion, of odour, of taste, and of voice, have, in succession, resumed their normal functions. In some cases spasmodic cough and hysteric symptoms co-exist with regurgitation. Subsequent experience has taught me another and a distinct view of this symptom. There are cases of real and often serious gastric disease, in which regurgitation, instead of being the sole or prominent symptom, constitutes only one, and a subordinate one, of a group of symptoms, all indicative of real diseases in the stomach and digestive function.

"I have met with cases characterised by severe gastrodynia, pain on pressure at the epigastrium, epigastric pulsation during digestion, gaseous distension and eructations, impaired appetite, and regurgitation, not only of acid or bitter fluids, but also of masses of half-digested food, and other symptoms of serious and even organic disease of the stomach. Cases of this kind are totally distinct from those I have been describing, and there is one peculiarity by which they may generally be discriminated. Real gastric disease is accompanied by a progressive emaciation; in the simple regurgitating disease there is either no emaciation, or it is to an extent not sufficient to excite alarm. In one well-marked case of uncomplicated regurgitation in a girl of 16, the mother said:—'Is it not a wonder, Sir, that my daughter, though she throws up all her food, looks plump, and fat, and well? She is as active and in as high spirits as ever.' I told her that her daughter was not in danger, that the disease might be tedious, that enough food was retained to nourish her well, that it was purely an affection of the nerves of the stomach. She was in a state of great apprehension about

her. In this case the simultaneous application of two, not large blisters, one at the epigastrium and the other opposite, on the spine, controlled the regurgitation; but it returned after eight or ten days, and yielded ultimately to a course of electro-magnetism. Generally, active purgation injures, as, indeed, does every mode of treatment which tends to depress the vital powers. One case, however, in which a vast quantity of fecal matter was detained in the colon, was cured by a course of purgatives. I have found a drop of creasote, with fifteenth or a twentieth of a grain of muriate of morphia, in pill, repeated three or four times a-day, more frequently useful than, perhaps, any other medicine; yet occasionally it happens that creasote disagrees. The compound aloetic pill I have generally found the best aperient. Opium, in full doses, while it deadens the irritability of the nerves, injures the whole digestive function; its good is more than counterbalanced by this evil. In some cases prussic acid, either with or without a few drops of the solution of muriate of morphia has done real good. Slow eating, perfect mastication, food well selected and restricted in quantity, constitute essentials in the treatment. The reception of food slowly, as by suction through a tube, I have found, in a few cases of extreme regurgitation advantageous. I have thus given ass or cow's milk, slowly introduced through a straw or glass tube into the stomach, after the American fashion of swallowing sherry cobbler.

"This affection, like hysteria, sets at defiance all fixed rules as to particular remedies; that which perfectly succeeds in one case utterly fails in another apparently identical. In some cases I have known much benefit to be derived from ices; in one case the disease yielded (apparently at least) to iced coffee. I have also found white bismuth and magnesia particularly useful. Of all remedies I have thought that travelling, and change of air and place constantly repeated, and in obstinate cases a total change of climate, the most uniformly efficient."

ART. 26.—*On Fatty Discharge from the Bowels in connexion with Disease of the Pancreas.* By ALFRED CLARK, Esq., M. R. C. S., Twickenham.

(*Lancet*, Aug. 16, 1851.)

[The subjoined case has an important bearing upon the physiological properties of the pancreatic fluid. It has recently been advanced by Dr. Bernard (*Abstract*, vol. ix, p. 374) that the office of this fluid is to emulsionise fat, and thus render it more susceptible of absorption by the lacteals. This case, as far as it goes, sanctions this theory, inasmuch as the disease, and consequently presumed defective secretion of the pancreas, is seen in conjunction with the passage of undigested fatty matters by the bowels.]

Harriet M—, aged fifty-seven, unmarried, the subject of the following case, had been a sufferer for some years before her last fatal attack to constant derangements of the functions of the liver, and from time to time to attacks of gall-stones, many of which, no doubt, were passed, but never detected in the fecal discharges.

About the middle of September, 1850, when away from home, she first began to notice in the urine (and at that time she supposed she passed it with her urine) masses of yellow, greasy-looking matter, in colour, consistence, and general appearance, exactly similar to yellow salt-butter, floating as small solid cakes (about the size of half-crowns) on the surface of the urine as it became cold. On her return home, which was very shortly afterwards, she came again under the care of Mr. Clark, senior, of Twickenham, and I had an opportunity of watching the case throughout. Her general health at the time was much deranged; the bowels very costive; liver inactive; suffering from frequent attacks of acute pain or spasms in the regions of the liver, which we referred to her old complaint (gall-stones), and which were relieved by the use of emetics, anodynes, hot fomentations, blue pill, and mild aperients.

About the beginning of October she first mentioned to us the presence of this fatty matter in the urine, and she was herself quite confident that it came from



the bladder; but on making careful inquiries, we found that it was present not only in her water, but that all her motions contained more or less of it, and its presence in the urine was dependent on its passing away unconsciously from the rectum whenever she had a call to pass urine, although no fecal matter passed at those times.

I gave a specimen of this fatty matter at this time to Dr. Arthur Hassall, who carefully examined it under the microscope, and found it to be perfectly structureless, and, in fact, could not tell it from a piece of butter. The quantity now voided (October 2d) was about three or four ounces daily, as nearly as we could guess; the motions were costive, pale-coloured; (but no discoloration of the skin from absorbed bile; there was a deficiency in its secretion;) the motion very offensive; the urine scanty and high-coloured; pulse 76, weak; she herself much emaciated, having been more or less ill for a year previously.

After a short time the matter oozed away continuously from the bowels, saturating her linen and bed-clothes; it was of a most offensive odour, and quantities of it were passed with each motion, which had now become very fluid, pale-coloured, and offensive, the fatty matter floating to the surface, and forming a solid cake on cooling; the greatest quantity discharged at any time per diem must have amounted to eight or nine ounces.

During the first month of her illness, she took two or three times a week small doses of blue-pill, or mercury-with-chalk, with mild aperients, and the bitter tonics; afterwards the iodide of potassium; but nothing appeared in any way to arrest the discharge of fat; nor did changes in her diet appear to have any effect upon it. Emaciation still continued, but she suffered no pain; in fact, she said she was freer from it than she had been for years.

Nov. 20th.—Dr. Chowne saw her in consultation. His opinion confirmed our own, that there was no doubt disease of the pancreas, whether of a malignant character or not was doubtful, together with a very inactive state of the liver, in all probability dependent on organic changes in its structure; and, more as a palliative than with any hopes of producing a cure, he recommended olive oil in two-drachm doses twice a day, with three grains of mercury-and-chalk every night. We fancied that the oil at first in some measure arrested the discharge, and we increased the dose to six drachms twice a-day, but in a few days it returned with all its former violence.

On the 21st of January, eight hours after death, I made a post-mortem examination, assisted by Mr. Clark, sen., of Twickenham, and Dr. Kershaw, of Kingston. The body was much emaciated, the legs anasarous. On opening the chest, we found a large quantity of fluid, of a pale-red colour, in the cavities of both pleura, the pleura speckled over with minute spots of tuberculous-looking matter, in a state of softening; the lungs themselves perfectly healthy; no adhesions. Heart soft and flabby; pale-coloured; there was, in fact, fatty degeneration of it; and the pericardium contained about four ounces of fluid. On opening the cavity of the abdomen, we were surprised with the apparently perfectly healthy state of all the viscera; but on removing the omentum from the lower edge of the stomach, and drawing down the intestines, we brought into view a small tumour, about the size of a hen's egg, imbedded in some fatty tissue, and situated between the left end of the stomach and the upper end of the spleen, and attached to the extremity of the pancreas. On cutting into this, we found it to be an encysted tumour, containing a mass of dark chocolate-brown substance, yellow in the centre, and glistening with small particles of cholesterine. The pancreas was completely altered in structure, being converted into a mass of nothing else but fatty tissue, with no traces of the original glandular structure. The whole of the liver, pancreas, duodenum, stomach, spleen, and tumour, were now removed from the body, and examined more in detail. The liver was pale, easily broke under the fingers, and presented the usual appearances of a nutmeg liver; gall-bladder very small; the coats much thinner in the posterior part; quite empty of bile, but contained two gall-stones of the size of horse-beans; bile-ducts empty; and the ducts in the substance of the liver contained but little bile; the whole liver being rather smaller than natural. The duodenum (perfectly healthy) was now lit open, and the opening of the ductus communis choledochus observed, and

a probe being introduced, readily passed into the cavity of the gall-bladder; no opening for the pancreatic duct could be observed; the ductus communis choledochus, and its continuation, the cystic duct, were now laid open, and beyond the opening into the duodenum were sufficiently large to admit the little finger; the pancreatic duct did not open into this canal, but where it should have opened into the duodenum, but external to it, we found the remains of the duct, containing in its canal, and completely embraced by it, a mass of calcareous matter, irregular in form, rough, and of a glistening white colour. On carefully cutting down on this, and examining the interior of the duct, we found that it terminated, just external to the duodenum, in a complete cul-de-sac, the canal being pervious towards the pancreas; there was no fluid in the duct; the mass of calcareous matter, consisting, in all probability, of carbonate and phosphate of lime, had most likely been formed in the pancreas, carried by its duct to its extremity, had failed in passing into the duodenum, and, increasing in size, at last had completely obliterated the duct; during which time, the pancreas, failing in getting rid of its secretion, had been gradually undergoing a change in its structure, and at last was converted into the fatty mass which it presented to us at the post-mortem examination. Whether the liver had acted at all during the last months of her life, is doubtful. The gall-bladder was hardly in the slightest degree stained with bile, nor were any of the ducts. The intestines generally quite healthy; the kidneys and the uterus healthy; the right ovary, diseased, enlarged, and connected with it a small cyst, about the size of an orange, containing a straw-coloured fluid.

*Remarks.*—The foregoing case is interesting, as illustrating, in a very marked manner, the connexion of disease of the pancreas with fatty discharge from the bowels; but in this case, as in all others reported, there was an evident deficiency of bile; but the generally healthy state of the other viscera prove that the presence of this fatty matter is dependent on absence of the pancreatic fluid, together with deficient supply of the biliary secretion; though in what way this deficiency acts in determining the secretion or conversion of other matters into this fatty substance, it is impossible to say.

Dr. Bright, in the eighteenth volume of the "*Medico-Chirurgical Transactions*," reports several cases, in all of which there was decided malignant disease of the pancreas, and also of the duodenum, and from a general consideration of all his cases, arrives at the conclusion that, as regards the symptoms of fatty discharge, you must have for its production—"Disease, probably malignant, of that part of the pancreas nearest to the duodenum, and also ulceration of the duodenum itself," these two conditions being peculiar to all his cases; but there also appears to have been a deficiency of the biliary secretion.

He, Dr. Bright, does not affect to decide whence the peculiar fatty matter is derived—"whether it is to be considered as a vitiated secretion from natural structures, which must here be chiefly mucous; or as a discharge from the diseased and ulcerated parts; or as the product of defective digestion of alimentary matter, depending on the imperfect supply or irregular mixture of the biliary and pancreatic or other secretions; or on the perverted and impeded action of the duodenum."

He concludes his observations on the disease in question with the following paragraph:

"All of those in which the oily evacuations have been observed have been cases of decided malignant, and, as far as the pancreas is concerned, we might say, of schirrous disease. Now it is a fact which I have observed in several cases, that the bile is very apt to undergo that change which leads to the deposit of concretions of adipocire in the gall-bladder, in patients labouring under schirrus, as females with schirrous mamma, for instance, where [the disease either has or has not attacked internal organs; and I think it arises as a fair question, therefore, whether the peculiar appearances of the alimentary discharges may not depend on the same condition, be it what it may, which leads to the unnatural deposit in the gall-bladder; and should this prove to be the case, the symptom would be diagnostic of the nature of the diseased action, rather than of its effects."

I think the history of the case just reported will decide that it is not absolutely

necessary that there should be schirrous disease, either of the pancreas or of the duodenum, for the production of this fatty matter.

In the same volume is a case reported by Mr. Lloyd, in which there was a cancerous state of the duodenum, which had nearly obliterated the canal, and completely obstructed the duct of the pancreas, as well as that of the liver. The nature of the fatty discharge was precisely similar to that taken from our patient, a specimen of which I showed to Mr. Lloyd.

Dr. Elliotson reports also several cases in the same volume, some from his own practice, others from different authors, and one in which the fat was supposed to pass from the bladder; but may not the patient have been deceived in this respect, in the same way as mine was?

From a comparison of all his cases, he arrives at no certain conclusion as to the source of the discharge, but refers it to the liver or intestines, and considers it a necessary condition that there should be disease in the canal, in the liver, and the pancreas, and appears to be rather inclined, from the unctuous nature of most biliary secretions, to refer it to the liver.

He does not consider "organic disease of either the alimentary canal, or any other part," as being necessary for the production of the disease, the truth of which opinion the case just reported tends to confirm.

**ART. 27.—Case of Obstruction of the Bowels. Treatment by Electro-Magnetism.**  
By Dr. CHARLTON, Newcastle.

(*Medical Gazette*, Sept. 12, 1851.)

The following instructive case was read at a meeting of the Newcastle Pathological Society.

On the 20th of October, 1850, the author was summoned to a case, the prominent symptoms of which were obstruction of the bowels, with vomiting, ultimately of fecal character. Purgatives, as is too often the case, had been persisted in. On the fifth day, the patient being in an almost hopeless state, the author obtained the consent of the friends, and of the lady herself, who exhibited uncommon firmness throughout, that nothing further should be done to irritate the intestines; that ice should be freely taken by the mouth, but no food or medicine; and that the patient's strength should be sustained wholly by nourishing enemata of beef-tea. This was on the 4th of November. The retching now gradually subsided; the bowels continued to be a good deal distended, but were still not painful on pressure. Ice afforded great relief to the thirst. Small quantities of fecal matter were vomited for two or three days, but these too ceased, though the bowels were still obstinately closed. The patient continued for six days then free from suffering, but extremely exhausted, till the nurse informed the author, on visiting her on the 10th of November, that after much rumbling of the bowels during the preceding night, a large quantity of flatus had passed, and that the bowels were less distended. Finding this to be the case, he regarded it as an indication for further proceedings, and ordered magneto-electricity to be applied; it produced slight vomiting, and much commotion in the bowels, but five hours after a copious evacuation by stool of hard scybalous matters. During the night the patient had a still more copious evacuation; and the next day she ventured to take a small quantity of beef-tea, which produced no sickness. The pulse now increased in strength and diminished in frequency, and she gradually regained her health in about ten days after this date, having had no untoward symptoms subsequently. The author remarks that the above case tends to illustrate still further the advantages of delay in cases of this nature, and the utter inutility of employing severe purgatives where symptoms such as we have described prevail.

## SECT. V.—DISEASES OF THE GENITO-URINARY SYSTEM.

## ART. 28.—On Hematuria. By Dr. G. OWEN REES.

(Medical Gazette, July, 1851.)

[On entering upon this subject, which forms one of his Lettsomian lectures, the author remarks that blood may appear in the urine either in its entire form or in its colourless elements only. In the former case the urinary passages, prostate gland, bladder, and kidneys, all require examination. When the bladder is suspected surgical means are, of course, demanded. The author also enters briefly into the microscopical appearance of blood-corpuscles, as well as of pus and mucous corpuscles, the presence of which may occasionally complicate the diagnosis. He then continues:]

When blood is present as a deposit in urine, in any quantity, we may be sure that albumen exists in solution; and it is important that we should know, within certain limits, the corresponding degree to which we may expect the urine to be albuminous for any given quantity of red corpuscles which may appear in it. An approach to tolerable exactness may be attained by practice and attention to this point; and it is one of great value in the diagnosis of urinary diseases. When we boil urine containing albumen, if it be acid, as is generally the case, a precipitate is produced. Now when blood is present, you will be surprised how much of it is required to produce an amount of albuminous precipitate such as characterises cases of ordinary albuminuria. Unless, indeed, the urine present the appearance of being made up in very large proportion of blood, the amount of albumen will generally be trivial. This will not appear extraordinary to those who are in the habit of observing how much show a little blood can make; and the quantity of albumen in the urine of morbus Brightii may well appear comparatively great, when it often amounts to as much as indicates the disintegration of several ounces of blood per diem; and one ounce of blood will make a great show in the quantity of urine passed in twenty-four hours. The importance of paying attention, then, to this point, principally consists in our being able occasionally to detect the morbus Brightii by showing an amount of albumen in the urine far above that indicated by the red corpuscles present.

Returning to the pathology of the subject, let us now assume that careful examination of the bladder and prostate gland has satisfactorily shown that the kidneys or ureters are the source whence the blood contained in the urine must be derived, and consider to what conditions of those parts the hemorrhage should be attributed. First as regards idiopathic hæmaturia. This bleeding from the surfaces of the kidney, without any especial cause beyond exposure to cold or to the vicissitudes of climate in warm and damp localities, has been considered as rare by most writers. For my own part, it has so frequently occurred to me to detect the cause of such hemorrhage in lesion of some organ, that I am much inclined to deny hæmaturia ever occurs, except as an indication of decided disease of the kidney or other part of the urinary apparatus. It is true that idiopathic hæmaturia sometimes occurs, together with hemorrhage from other mucous surfaces, in those who ascend to great heights, and who consequently suffer the loss of that amount of atmospheric pressure which preserves the conditions of equilibrium necessary to the safe circulation of the blood; but we may at once exclude such cases as these from the consideration.

With respect to the appearance of the urine, Dr. Prout considered that, when blood tinctured the whole fluid, appearing equally dissolved throughout it, that the kidneys were generally involved. This is an observation which experience certainly verifies. When such an appearance is observed, however, it co-exists or alternates generally with blood as a deposit, and we may conclude that there is calculus in the kidney, or that the organ is the subject of other diseased condition, attended either with great congestion, granular deposit, or malignant disease. The detection of the real state of matters becomes very important in such cases. The symptom is a prominent one, and the patient's friends are sure

to press the practitioner urgently for his prognosis. Now, though in most cases, if calculus be present, the history or severity of symptoms will assist us at once to the truth, yet it sometimes happens that such evidence is not afforded; and this is more especially the case when oxalate of lime calculi are contained in the kidneys. Under these conditions the urine may be bloody, and no other symptoms observed beyond dull lumbar pains. If oxalate of lime crystals exist in the urine, there is also pain in the penis, which does not affect the glans penis, as in stone in the bladder; but, on the contrary, is most plainly felt at the root of the organ.

Now, though in these cases the hemorrhage will generally follow upon some unwonted exertion, still it is not always so, and the case is thus greatly obscured; for we lose a most important adjuvant to our diagnosis. If the hemorrhage is the result of any of those chronic states of disease to which the name "*morbis Brightii*," has been given, we may easily detect that it is so, for then the hemorrhage which may occur will soon be found to give place to other conditions, in which the colourless matters of the blood alone become effused. We have here only to wait; and, whenever the urine may be excreted of its natural colour, to test it for the presence of albumen; and, if this principle then be present in any quantity, without the colouring matter of the blood, we may be nearly certain that the further progress of the case will be marked by the continued excretion of natural-coloured urine containing albumen, and not by hemorrhage, and that the patient is suffering from some form of the *morbis Brightii*.

If, however, the urine on becoming of its natural colour after an attack of hæmaturia, does not prove to contain albumen, then we may feel nearly sure that the hemorrhage proceeded either from a calculus in the kidney, or some malignant disease of the organ.

The diagnosis between these two conditions must depend on the observation of the following points:

1st. In malignant disease the blood is generally passed in larger quantity than in calculus of the kidney.

2dly. There is more frequent tendency to nausea *on slight occasion* than in calculus disease.

3dly. Microscopic examination of the urine will frequently show pus or mucus in excess, if there be calculus; whereas, in malignant disease, this sign does not so frequently exist.

4thly. The appearance of those suffering from malignant disease of the kidney is nearly always indicative of a state of anæmia more or less advanced.

5thly. In calculus, hæmaturia generally follows upon some unwonted exertion.

6thly. Careful examination of the abdomen will frequently lead to the detection of tumour if there be malignant disease of the kidney.

With respect to this last indication, I have, after careful examination, succeeded in detecting tumour of the abdomen in several cases in which the origin of the hæmaturia was very obscure. It is always right, indeed, to make this kind of exploration whenever such cases are presented to us, and it should be several times repeated if nothing be detected at first. The bowels should be emptied by the action of aromatic purgative medicines, and the patient so placed during examination that the abdominal muscles be rendered as flaccid as possible. With respect to the use of purgatives, their exhibition previous to these explorations is often absolutely necessary before we can hope to arrive at the truth, should renal tumour be commencing. I lately saw a case of this kind, in which the origin of the hæmaturia was very uncertain until purgatives had been exhibited for several days, when the whole mystery was cleared up by the discovery of a tumour in the left lumbar region. In this case, as in several others I had previously seen, I was at first so completely foiled in detecting a cause for the appearance of blood in the urine that I was nearly making up my mind that the whole mischief must consist in transudation from the urinary mucous surface. There was such light lumbar uneasiness, and the history of the case was so deficient in symptoms, that it was scarcely possible the hemorrhage could have been caused by the presence of a calculus, and the renal tumour had become developed with scarcely any other symptom than hæmaturia.

In this class of cases it sometimes happens that we are unable to detect any enlargement of the kidney up to a very late period. The symptoms will be slight. There may be, perhaps, more irritability of stomach than is usually characteristic of dyspepsia—slight lumbar pains, and lassitude. The urine may contain blood but seldom, and weeks, and even months, pass without hemorrhage. I speak now of such hemorrhage as can be detected by the naked eye. If, however, we have recourse to microscopical examination of the urine from time to time, the case appears differently. We shall then find that blood-corpuscles are nearly every day passing away in small number. These may be detected by allowing the urine to subside in a tall glass vessel, and then examining the deposit. It is always right, when hemorrhage has been observed from the kidney, that the urine should be examined at intervals by the microscope. We thus have a means of ascertaining more correctly the effects of exertion in the production of hemorrhage. A patient may tell you that he can ride, run, or row, without producing hæmaturia; but after such exertion, if he be the subject of calculus in the kidney, we shall always be able to detect blood-corpuscles by the microscope, even though he betray no other symptom of the disease. It must be remembered, that in treating of the diagnosis between calculus in the kidney and malignant disease of the organ, I am directing your attention to such cases of calculus as you will only occasionally meet with. In general the diagnosis is easy enough. Thus the patient will generally have, in connexion with hæmaturia, severe loin pains, causing vomiting and retraction of the testicle, and other symptoms, clearly pointing out the true nature of the case; but the equivocal cases I am here alluding to are sufficiently common to make their study of some importance to the practitioner.

To sum up, I should say, in the first place exclude from the consideration cases of what has been called idiopathic hæmaturia, which can scarcely exist under ordinary barometrical conditions; secondly, determine that the case does not belong to the morbus Brightii, by ascertaining that when the red particles cease to appear the albumen also leaves the urine; and, thirdly, when the hemorrhage observed is placed within these limits, determine whether it be owing to calculus in the kidney, or to malignant disease, by especial attention to the following points:—The appearance and complexion of the patient; the presence or absence of nausea on slight occasion; the presence or absence of pus and mucus in the urine mixed with blood-corpuscles; and, lastly, by careful exploration of the abdomen for the detection of tumour.

Now as regards the treatment of the two forms of hæmaturia I have been speaking of,—viz., that produced by calculus in the kidney, and that which is the consequence of malignant disease.

From what I have already brought before you with respect to the treatment of alkaline urine, as produced by irritation of the urinary mucous surface, you will at once perceive that the condition brought about by the existence of a calculus can never be benefited by the exhibition of other than demulcent and alkaline remedies. It matters not how the calculus may be composed,—be it uric acid, oxalate of lime, or phosphatic,—be it soluble in acids or alkalies,—we cannot treat it chemically while in the kidney. Our object must be to render the urine as unirritating to the mucous membrane as possible, and enable that membrane thus to bear the presence of the calculus with as little inconvenience as possible. There is another indication, however, which we answer by this alkaline and and demulcent plan, and a most important one. It consists in the relaxation of the spasm of the canal. By effecting this, a small calculus may often be brought away which otherwise might remain to increase, and perhaps destroy the patient. It is with this view that we should combine our demulcent and alkaline remedies with such sedatives as the patient can bear without disturbance of stomach. Our most favourable result, of course, will be the expulsion of the calculus. Next to this we must hope that it will become encysted, and, by being so fixed in the kidney, cease to cause irritation; while we have to fear, as the worst result, the setting up of inflammatory action in the body of the kidney. This may terminate in the effusion of lymph in the tissue of the organ, and to a subsequent contraction of the inflamed part; and sometimes the

patient may be so fortunate under these circumstances as to have the calculus which has caused the acute nephritis, should it be a small one, impacted in the kidney, so as to create no further irritation. In a great many of these cases, however, the acute nephritis terminates in suppurative disease; and if there be any constitutional imperfection dependent on strumous or syphilitic taint, this is the way in which we may generally expect the case to end. All we can do under these circumstances is to support our patient, exhibit opiates, and render the renal secretion as unirritating as possible. It is absolutely necessary that such persons should avoid exercise in any way beyond that necessary to walking gently, or exercise in an easy carriage. Neglect of this doubles the danger to the patient, while the difficulty of enforcing the injunction is often very great.

With respect to the treatment of cases in which the hæmaturia depends on malignant disease of the kidney, of course we cannot proceed with any hope of cure; but much may be done by attention to the general health, and by relieving those symptoms which arise as the result of the hemorrhage and the impaired state of the chylipoietic viscera. The anæmia so often noticed in these cases, which causes dyspnoea on slight exertion, and restless nights (from the facility with which any error in diet produces palpitation and throbbing of the carotids), may be, to a great extent, combated by the exhibition of iron in some palatable form. Perhaps the best preparation for the purpose is the *Tinctura Ferri Sesquichloridi*, taken in doses of from  $\mathfrak{xx}$  to  $\mathfrak{xxx}$  three times a day, the bowels being watched the while, and kept regular by the exhibition of mild and aromatic laxative medicines.

It may be objected to the use of iron that it frequently tends to produce hemorrhage, and that we ought scarcely, therefore, to exhibit it; and it is quite true that care is necessary on this point. Watch the effects of the remedy, however, and you will constantly find you can exhibit it with advantage; that it will not induce hæmaturia, and especially if it be exhibited in the form of the sesquichloride of iron tincture. With regard to the use of styptics, they frequently appear useful in cases where the disease is not much advanced. One of the best I know, and which I have used several times of late, is the tannic acid, exhibited, if necessary, at intervals between the doses of iron in the form of pill. The dose should be from four to eight grains three times in the day. I may here remark, with respect to the use of this remedy, that, if you wish it should reach the stomach as tannic acid, you must not exhibit it in solution. You may, if you do so, have the good luck to give the first dose before it becomes changed; but tannic acid is rapidly converted into gallic acid when dissolved, and the best means of exhibiting it unchanged is in the form of pill.

I now come to the consideration of those cases in which the urine contains the colourless matters of the blood; and inasmuch as, unlike hæmaturia, these indications do not admit of being detected so palpably by the senses, they are very frequently overlooked.

I will first bring before your notice the symptom of albumen in the urine,—a condition to which the attention of the medical profession has now been directed for many years, and which forms the leading feature of the disease called morbus Brightii. I shall not now describe the method of detecting the presence of albumen, but, assuming the fact established, I shall beg your attention to the pathological considerations of which it is suggestive in the present state of our knowledge.

When Dr. Bright published his views on this subject, and declared his belief that an albuminous condition of the urine indicated a peculiar state of kidney, which commenced in congestion, and terminated in the deposit of an adventitious matter in the tissue of the organ, some doubt was felt among pathologists as to the symptom indicating the condition described with any great degree of accuracy. It was thought improbable that the state of the kidney, noticed by Dr. Bright, could be the only cause capable of producing albuminous urine; and some were even so bold as to assert that many articles of food would produce a similar effect on the excretion. The exhibition of certain remedies also, and various pathological conditions, were quoted, which theory suggested as capable of bringing about the result; and, what with intrepid assertion on the one hand,

and plausible reasoning on the other, considerable doubt was for some time cast on the diagnostic value of albumen in the urine. Among the articles of diet said to produce albuminuria, I may mention pastry, milk, and cheese. Among medicines, some diuretics were thought capable of producing a similar effect; and mercury, if exhibited to salivation, was confidently spoken of as a cause for albuminous urine. The pathological states which have been at different times quoted as causes are very various and very numerous:—typhoid and typhus fever; certain forms of rheumatism; severe inflammatory affections, &c.

First, then, with respect to articles of diet:—Neither milk, cheese, nor pastry, will produce albuminous urine; nor have I yet been successful in obtaining, from those who have made these loose statements, a specimen of urine which gave the remotest indication of the presence of albumen, provided it had been previously shown free from that principle. I have also failed to detect albumen in the urine where diuretics have been given medicinally, though it is possible that in poisonous doses some of these may produce the effect. In poisoning by cantharides, albumen appears with blood in the urine; but such cases as these are scarcely likely to confuse your diagnosis. With respect to mercury, the impression was so strong on the minds of some that it always produced albuminous urine when exhibited in large quantity, that a few years ago I was at the pains of carefully examining the urine of persons who were undergoing salivation for syphilitic disease at Guy's Hospital, taking care to test the urine of each case before the exhibition of the remedy. In these experiments I entirely failed to detect albumen, and I have no doubt that the conclusion above alluded to was arrived at on theoretical grounds.

#### ART. 29.—On Alkaline Urine. By Dr. G. OWEN REES.

(*Medical Gazette*, July 4, 1851.)

With respect to alkaline urine generally, it may be stated that whenever it is excreted it is attributable to one of the following conditions:—

1. Disease of the spine from injury or other cause.
2. Dyspepsia.
3. Disease of the urinary mucous membrane.
4. The ingestion of medicines, or of aliments containing alkaline salts, or salts of vegetable acids.

A fifth—viz., the discharge of an excess of soda, or potassa, or ammonia, from constitutional causes—is mentioned by Dr. Prout. This, however, Dr. Rees is now satisfied must be regarded as produced by aggravated disease of the mucous surfaces, and therefore should be included under the third heading.

He proceeds to consider these conditions seriatim.

First, then, when disease attacks the spinal column, the cord becoming subsequently affected; or when, from external violence, the nervous centre suffers immediate injury, the urine will become alkaline. Various theories have been resorted to in order to explain this. That the secretion of the kidney may become changed owing to disease in the neighbourhood of those nerves of organic life from which it derives its energy, no one will be prepared to deny; this may possibly happen; but there is much to lead us to suspect that another cause than this has the principal share in bringing about an alkaline condition of the urine. Dr. Rees alludes to an increased action of the mucous surface, probably brought about in order to protect the ureters and bladder as much as possible during the passage of acid urine over them. The membrane which in its healthy state could bear the stimulus of the healthy urine has now partly lost its vitality, and an alkaline fluid is secreted for its defence. The view he has here taken is strongly borne out by what we observe in all affections of the spinal column terminating in disease of the medulla spinalis and its membranes. The urine first becomes alkaline; as the disease advances, large quantities of mucus appear; and post-mortem examination of the urinary organs will show an



aggravated disease of the mucous membrane lining the pelvis of the kidneys, the ureters, and bladder.

Dr. Rees begs the particular attention of those engaged in surgical practice to the view here taken of the relation of alkaline urine to spinal injury. It would point to the propriety of using alkaline and demulcent remedies in such cases for the relief of the urinary symptoms, and the exhibition of alcoholic support with considerable care, and in the least irritating form.

Secondly, with respect to the alkaline condition of urine caused by certain forms of dyspepsia. This, which is accompanied with the deposit of the earthy phosphates, has been regarded by Dr. Prout as indicative of a tendency to the waste of nervous matter, and a general debility of constitution; and it is certainly true that we generally meet with it in those who have been overworked, either mentally or physically. There is a point of view, however, in which this form of urinary disease has not been regarded, but which yet seems to bear strongly on its pathology.

Now the researches of Liebig have shown that the gastric juice in all probability owes its acidity to the same acids as those which enter into the composition of muscular structure—viz., the phosphoric and lactic; and from whatever source these acids may be derived, it is certain that their proportion in the urine is governed by the necessity there may be for their expulsion from, or detention within, the organism for the discharge of the functions of life.

The constitution of the urine is such, that its degree of acidity (taking the whole result of twenty-fours) may, to a certain extent, be regarded as the measure of the acidity of the stomach, or of the quantity of the phosphoric and lactic acids expelled; and this would seem to point to the deficiency of acidity in the excretion as an indication of disorder of the stomach interfering with the secretion of the gastric juice in its healthy condition. Dr. Rees believes this alone to be the cause of alkaline urine, so far as what are called constitutional causes are concerned; and he does not believe the deposit of phosphates, when it occurs in alkaline urine without disease of the passages to indicate anything more than this state of stomach. Under these conditions, the urine is, of course, secreted *alkaline by the kidneys*, and is not, as in disease of the passages, *rendered alkaline after secretion*. This alkaline or neutral state may be regarded as indicative of nervous action being defective, and secretion of the gastric juice not going on as it should do in consequence. Whatever view we may take, however, we must regard the disease as more immediately the consequence of a malsecretion on the part of the stomach, probably caused by the circulation of a diseased blood through the structure of the organ.

With regard to the term "phosphatic diathesis," Dr. Rees does not consider that the deposit of the earthy phosphates is anything more than an indication that the urine is neutral or alkaline. The deposit of these earthy salts has led to the erroneous idea that they are present in *excess*, and to the adoption of the above term. There are few diseases, however, in which the earthy phosphates are really present in excess, and these are not allied in any way to the class of cases which come before us as urinary disease. Thus the urine is often *acid* when large quantities of earthy phosphates are escaping, as in *mollities ossium*.

Dr. Rees is by no means inclined necessarily to connect alkaline urine with severe nervous irritation, with wasting, and other symptoms of vital decay. Many cases in which we observe the secretion of such urine with phosphatic deposits show no such condition, the debility not exceeding that which characterises many forms of dyspepsia: while, on the other hand, we often see great depression and loss of vital power, with wasting, as when oxalate of lime appears, and no tendency to alkalinity.

With respect to the treatment of that morbid state of the system which induces the excretion of this kind of alkaline urine, the administration of the mineral acids is by far the most valuable means we possess of restoring the stomach to its healthy function. In many cases this alone will be sufficient, if continued for a few weeks; but in old cases, or where relapse has been frequent, it is highly desirable to have recourse to mild alterative treatment in addition. For this

purpose nothing can be better than the use of the bichloride of mercury in small doses, taken at bedtime in the form of draught, and in combination with the tinctures of rhubarb and bark. This will be found greatly to assist the mineral acids in restoring the healthy secretion of the stomach. The bowels should be closely watched in this disease, and their action kept up by warm stimulating purgatives.

Dr. Rees then proceeds to consider that alkaline condition of urine which is connected with disease of the mucous surfaces lining the kidney and ureters, and in which the urine is secreted acid, but becomes alkaline in consequence of the changes subsequently effected in it. Here, in addition to the alkalinity of urine, we have symptoms not so much characterized by dyspepsia as by irritation of the urinary canals. There are dull pains in the loins, and down the sides of the abdomen, occasional dysuria, and not uncommonly the skin becomes inactive and dry, or subject to occasional excessive excretion. The urine generally contains mucus in excess, and sometimes pus in considerable quantity; and in the older and more aggravated forms of the disease the miseries consequent on calculus in the bladder are often added to other evils.

It has been believed up to the present time that when urine has been secreted acid by the kidney, and has subsequently become alkaline, owing to the action of the mucous surfaces, the cause of the alkalinity consists in the evolution of carbonate of ammonia, produced by the decomposition of urea. The mucus poured out by the mucous membrane has been regarded as a sort of ferment; and by its action carbonate of ammonia has been supposed to be formed by a disturbance in the arrangement of the elements of urea. Now, though it is nearly certain that the urea undergoes this kind of decomposition when the urine is long retained in the bladder or urinary passages, it is highly improbable that such decomposition always takes place in the cases he is now speaking of; and he thinks he shall be able satisfactorily to prove that we have no occasion to resort to such mode of explanation. If we take healthy urine of its full acid reaction, and add liquor potassæ to it carefully, we shall find that when we have neutralised its acidity, ammonia is immediately evolved. There is no occasion to use caustic alkali, however; for, if we add a solution of basic phosphate of soda instead, which is a very mild form of alkaline solution, we still observe that ammonia is given out in great quantity. If we now test the reaction of this urine, we find that the reddened litmus paper becomes blue, indicating the presence of an alkali; but on drying, it will again assume its red colour, showing that the alkaline reaction was caused by ammonia, and not by fixed alkali; but, it may be asked, how could this happen, since we used *fixed* alkali to produce the alkalinity? The fact is, that our fixed alkali is all neutralised by the acids with which the ammonia was previously combined, and the volatile alkali is set free to exercise its power on the reddened litmus. Thus, supposing the ammonia to have existed as phosphate and hydrochlorate in the urine, the fixed alkali has combined with the phosphoric and hydrochloric acids to form *neutral* salts of the fixed alkali, leaving the ammonia the only free alkali present. So it is that the mucous surface will occasionally act under inflammation: the alkali contained in the mucous secretion is fixed alkali, but its presence produces free ammonia, while the fixed alkali itself is neutralised to form salts with the acids which were previously combined with the ammonia. This state of things will always be observed when the mucous surface is not pouring out any very large quantities of its alkaline secretion. When, however, there is an excessive discharge of alkaline fluid, then there is a change with regard to the action of reddened litmus, which will now become permanently tintured blue. No drying will restore its red colour, and we therefore at once observe that fixed alkali effected the change. This has happened owing to the excess of fixed alkaline matter poured out by the mucous membrane having more than neutralised the acids of the ammoniacal salts contained in the urine. All the ammonia has been set free, but the fixed alkali has been secreted in such great quantity as to neutralise both the free acid of the urine, and the acids of the ammoniacal salts. Dr. Rees begs attention to this circumstance, as important distinctions connected with general pathology have been made in reference to

these two conditions; whereas he firmly believes there is no necessary difference whatever in *kind* between the two states, and that they are always merely differences in degree of inflammation of the mucous surface. It is a fact, then, that urine may be rendered fugitively alkaline (that is, alkaline by free ammonia) and also permanently alkaline by the action of the inflamed mucous membrane, and that one or the other state may be induced according as the membrane pours out more or less alkaline fluid.

The earthy salts of the urine—viz., the phosphates of lime and magnesia—always appear in the form of urinary deposits when the urine becomes alkaline. When the urine deposited the triple phosphate (or phosphate of ammonia and magnesia), Dr. Prout was inclined to consider the case as somewhat different in kind to that in which both the earthy salts appeared—that is, when the phosphate of lime accompanied the triple phosphate. It will be obvious, from what Dr. Rees has said, concerning the fixed alkaline matter contained in the secretion of the mucous membrane, that, if that alkali be poured out only to such degree as to evolve ammonia, and not to neutralize the whole of the acids of the ammoniacal salts of the urine, the triple or ammoniaco-magnesian phosphate must be thrown down as a deposit. If the alkali be effused by the inflamed membrane in still greater quantity, then it is obvious the phosphate of lime must also fail; the mischief in both cases arising from one and the same cause—viz., inflammation of the mucous surface. Now, if we look to Dr. Prout's work, we shall find the history and symptoms detailed under these heads exactly such as we might expect from varying degrees of inflammation of the urinary canals; and it is a matter of surprise that the power of that membrane in rendering the urine alkaline, and its necessary influence in producing the various phosphatic deposits, has been so much overlooked as it has been by systematic writers. When, then, we observe urine of alkaline reaction, we must always ascertain whether or not it affects reddened litmus or turmeric paper permanently. If it do not, and the paper reassume its colour on drying, then ammonia has changed it; and we may conclude, with considerable accuracy, that the mucous membrane is not in so inflamed a state as when a permanent effect is produced. In the one case we shall generally have the triple phosphate only as a deposit; in the other, we shall have the phosphate of lime also. Of course, it is necessary to exclude from consideration that form of alkaline urine which Dr. Rees has before noticed, and which is *secreted* alkaline, and is characteristic of dyspepsia. He is now merely speaking of alkaline urine as produced by the action of the mucous surfaces. There is seldom, however, much difficulty in making the distinction between these two kinds of urine. That characteristic of general disorder, and which is *secreted* alkaline by the kidney, is very rarely accompanied with more than the normal amount of mucus; whereas urine which is made alkaline by the action of the mucous membrane nearly always contains mucus and epithelium far beyond the quantity observed in health, and very often pus also.

The disease characterized by the deposition of the mixed phosphates (that is to say, both the triple phosphate and phosphate of lime) is very accurately described by Dr. Prout. He states that it seldom occurs without severe and old disease of the bladder and prostate, which, we shall observe, is precisely the condition that would favour the discharge of large quantities of fluid from the mucous surface, and so bring about an alkaline urine, such as would permanently affect the test paper.

The author now directs attention to that state of urine which has been described by Dr. Prout as consisting in an excessive excretion of the alkalies. This affection, which that great authority was inclined to consider peculiar in character, was observed by him only in very advanced cases of disease, where the bladder and mucous passages had suffered greatly, or where calculus, or what he called long-continued phosphatic diathesis, had greatly lowered the patient. From what Dr. Rees has already urged upon our attention, he thinks we shall now be prepared to believe that a very simple explanation may be given of this condition. He has already alluded to two states of the urinary mucous surfaces; in one of them the fixed alkaline fluid was poured out merely in quantity sufficient to

liberate a part of the ammonia from the ammoniacal salts; in the second, the fixed alkaline fluid from the mucous membrane overcame the acids entirely, and communicated a permanent alkalinity to the urine when secreted. The first of these conditions was accompanied chiefly by a deposit of the triple phosphate; the second, by both the triple phosphate and the phosphate of lime. Now, when long-continued or aggravated disease, such as Dr. Prout has so well described, affects the urinary passages and bladder, and a condition of urine is produced in which ammonia and soda (and, as he states, probably potassa) are found in excess in urine, the cause of the presence of these constituents appears very plainly indicated. Dr. Rees believes, then, that this condition is again produced merely by an inflammation of the urinary mucous surfaces connected with a more excessive discharge of their alkaline secretion; and that it is the constituents of this which, by their presence in such excess, decompose the ammoniacal salts, throw down precipitates of the earthy matters, and, becoming free, produce the form of urine described by Dr. Prout. Dr. Rees in no way believes the disease to be caused by any peculiar state of system.

It will be observed that the author has here extended the importance of the alkaline secretion of the urinary mucous surface to a degree which has not yet been accorded to it. He would wish to state, however, that he has only done so after very mature consideration, and a full persuasion of the very satisfactory manner in which this view explains and simplifies the subject.\* The discharge from an inflamed mucous surface, when we have the opportunity of exactly estimating it, we all know to amount to a very large quantity per diem. This discharge is a fertile source of alkali; and there can be no possible reason why the urinary mucous membrane should be exempted from liability to excessive secretion any more than the lining membrane of the bronchi or nares. It is, as he has before said, constantly exposed to the action of a fluid which is varying in its degree of acidity, and which is affected by the character of the ingesta; and there is no occasion that he should explain how or why it is that, in our civilized state, those ingesta are most irregularly supplied to the stomach, both in quantity and quality; or how we too often find the members of our enlightened community paying dearly, through their urinary organs, for those physical as well as intellectual delights which are to be obtained at the dinner-tables of the more elegant and refined of the age. There is, perhaps, no mucous surface more harshly dealt with than that lining the kidneys, ureters, and bladder, and none which has been less reasoned upon by pathologists.

It will be observed, that Dr. Rees has taken especially into consideration the action which the fixed alkali poured out must exercise on the ammoniacal salts of the urine; whereas, the production of ammonia in urinary disease has been previously ascribed to the decomposition of urea only. He by no means, however, entirely disregards this last-mentioned source of the alkali; it is well known, indeed, that some portion of urea is always decomposed when brought in contact with fixed alkaline solutions.

The analogy to which Dr. Rees has pointed, in comparing the secretion of the urinary mucous surface under inflammation with the products of other mucous membranes in the same condition, may not at first appear quite satisfactory. It might be very plausibly argued that the condition of membrane under which the greatest amount of secretion was poured out was not necessarily that of highest inflammation; and from what we know with respect to bronchitis it must be acceded that, when the secretion is produced very alkaline, and very fluid, and in very large quantity, we do not always find that inflammation runs highest.

\* This point was much neglected by Dr. Prout; but Dr. Rees finds that, since he directed attention to it, in his work on 'Analysis and Treatment of Urinary Diseases,' published in 1845, it has been mentioned by others. Dr. Bence Jones, in his work, published in 1850, has made a distinction between those cases of alkaline urine caused by disease of the urinary mucous membrane and those indicative of general disorder. He has also adopted the author's views with regard to the relation of the early phosphates to alkaline urine, stating it as his belief that the phosphatic diathesis is nothing else than the precipitation of the earthy phosphates, in consequence of the alkaliescence of the urine.

It is under this impression that he would rather apply the word irritation, when speaking of these varying amounts of secretion, believing, as he does, that it more correctly expresses the real and immediate condition. Thus, when the system is broken down by old, and long-continued disease, it is then we observe the presence of the fixed alkalies in excess in the urine; or, in other words, we have then large quantities of the mucous fluid poured out; and it is this kind of excessive discharge which is produced in the bronchial tubes when the patient shows no great power of system, where irritability exists, and where inflammatory action is marked by that degree of atony which the practitioner recognises in the term "subacute inflammation."

With respect to the treatment of these cases of alkaline urine, it must be of a very different kind to that which is applicable to the cure of alkalinity of the urine when caused by stomach derangement. The pathology of the subject must be regarded, and the alkalinity combated by directing treatment to the irritated mucous surfaces. We must remember that the urine is secreted acid, and our object must be to make it less irritating. The acid remedies which are useful, therefore, in that form of alkaline urine dependent on constitutional causes, are here most improper; and we must meet these diseased conditions by the exhibition of alkalies. The urine as it is secreted in the kidney, must be rendered alkaline, and so less irritating; and while we do this, attention must be paid to the state of the secretions generally, and especially to that of the skin,—a much neglected excretory surface, but which should never be forgotten in considerations connected with urinary pathology.

Dr. Rees is well aware that, in the case of the excretion of alkaline urine such as is here described, high authorities have recommended the use of acid remedies. He entirely differs with this view; he believes it to be inconsistent with sound pathology, and experience has shown him the advantage of the opposite plan of treatment.

With respect to the best means of rendering the urine alkaline and less irritating in this disease, Dr. Rees would recommend the use of salts of vegetable acids; the citrate of soda or potassa, as exhibited in ordinary saline draughts, is an excellent salt for the purpose. This is more especially to be used when it is not desirable to risk purging the patient; when, on the other hand, we find it requisite to produce such effect, the tartrate of potassa may either be substituted, or combined with the citrate.

The vegetable acids are decomposed in the organism, and the base with which they were combined appears in the urine as a carbonate. If the state of the bowels be such as to require purging, there is no better remedy than the ordinary Seidlitz powder of the shops—a combination of soda and potassa with the tartaric acid which rarely fails to induce an alkaline state of the urine, and thus soothe the irritation of the canal. This treatment, if combined with the use of vegetable tonics, will be found sufficient in early cases. Where, however, we have to deal with cases in which there is evidence of old and long-continued disease, we must not trust to this treatment alone. We may here expect that thickened state of the sub-mucous cellular tissue consequent on inflammatory action; and we must have recourse to mild alteratives and sedatives, and remedies such as will assist the skin to assume a more than ordinary action for the relief of the kidneys: Hydrargyrum cum Cretâ and Dover's powder, in small doses taken at night, may be here used with great advantage. Care must be taken, however, to watch the effects of the mercury—to insure, in fact, its alterative action, and to avoid alike both purging and salivation. In the cases Dr. Prout has characterized by the presence of the alkalies in excess, mercury is nearly always inadmissible; the patient is generally too far debilitated to admit of its exhibition with any degree of safety and support; antacids and sedatives are all we dare venture upon.

In all these conditions a great amount of relief may be obtained by the use of warm bathing, if it be judiciously applied. In advanced cases the debility is generally too great to admit of it, but wherever the strength allows it, the use of warm or tepid baths, and of friction to the skin, are valuable means of relieving the patient.

An excellent method of rendering the urine less acid and irritating in all these forms of disease, consists in the administration of the liquor potassæ. This is, indeed, the old established and favourite remedy which experience has approved; Dr. Rees has constantly used it, and in some cases it is an extremely efficacious and convenient form of alkali. Owing, however, to the small quantity of potassa which we may venture to exhibit in the caustic state, the urine is not rendered alkaline by this remedy so speedily as when the tartrate and citrate of the base are used. Dr. Rees here states a fact which has been brought to light by this mode of treatment, and which places it beyond doubt that the urine is secreted *acid* in these cases of *alkaline* urine. Now if we begin in the early stage to exhibit small doses of liquor potassæ,—say from 15 to 20 minims, three times a day,—we shall occasionally find that, while this *alkali* is being exhibited, the urine which was alkaline will become *acid*.

We are now prepared to understand how this may happen. If we lessen the acidity of the urine as it is secreted on to the mucous surface, and thereby render it less irritating, that surface will in time recover itself, and no longer pour out that fluid, which is the result of inflammation. The urine will after a time pass over it without producing irritation, and the result will be that acid urine is voided, its natural acidity being only partially neutralized by the small dose of liquor potassæ. Dr. Rees conceives this to be the only satisfactory explanation of the fact, so anomalous at a first view, that *alkaline* urine may be rendered *acid* during the administration of an *alkaline* remedy.

The lecture concludes with some remarks on the production of alkaline urine by the ingestion of vegetable acids.

ART. 30.—On Chronic Vomiting as symptomatic of Disease of the Kidneys.

By CATHCART LEES, M.D.

(*Dublin Quarterly Journal of Medicine*, Aug. 1851.)

[The author notices that distressing nausea and vomiting may occur totally independent of any disease or even direct irritation in the gastro-intestinal system, being essentially sympathetic or nervous. One variety of this is the vomiting sympathetic of kidney disease, which he proceeds to illustrate. He says:]

If the vomiting be symptomatic of a calculus in the kidney or ureter, the diagnosis is seldom very difficult, as the situation of pain in the region of the organ, its suddenness and violence, coincident with severe vomiting, generally guide us to the seat of the disease. But in those cases in which the vomiting is caused by disease in the kidneys, without any calculus, or if there be a calculus, yet so situated as not to cause pain or tumour, there is often great difficulty in the diagnosis; an accurate knowledge of the patient's history being requisite, as also a careful inquiry into his present symptoms, and a minute investigation into the state of the urinary secretion, before we can venture on a positive diagnosis.

[The author here refers to a case in which vomiting was a permanent symptom, some being instances of otherwise unsuspected calculus of the kidney, and one, which is given at length, of fatty degeneration of the organ. He then continues:]

Nausea and vomiting are very constant occurrences towards the latter periods of chronic degeneration of the kidneys; but as they are not met with in most cases of irritation of the organ, no matter from what cause, whether it be simple acute nephritis, the mechanical irritation of a calculus, or gradual obstruction of the tubes from fat, we cannot establish any positive diagnosis from its occurrence. As to any degree of certainty with regard even to the seat of the disease, derivable from peculiarities in the times of vomiting or nature of the matters vomited, I am not prepared to speak positively. In two cases, the patient always vomited early in the morning, previously to getting up or taking food. I at one time thought this might be a means of diagnosing vomiting from disease of the kidney from other forms of vomiting, but further experience has satisfied me that this rule does not hold good. We must, therefore, take into consideration

all the other circumstances of the case, the history, age, sex, and particularly the situation to which the pain is referred. But even with the most careful examination we shall often be puzzled, particularly in cases when we suspect the brain to be the cause of the vomiting; and yet when the pulse does not afford sufficient indications, nor have we any other symptoms referable to it.

[Of the treatment of chronic vomiting the author thus remarks:—]

If it occur in the early morning while the patient is fasting, I have found the most successful plan to be, to make the patient take some light food before getting up, remaining quiet for a short time afterwards. If it occur at an early period of the disease, and particularly if pain in the loins is complained of, three or four ounces of blood taken by cupping from that region affords great relief. I have seen in some cases most satisfactory results from the use of equal parts of boiled milk and lime-water given frequently during the day. In other cases two or three drops of hydrocyanic acid, combined with three grains of bicarbonate of soda, given immediately before food, proved useful. Creasote in doses of one or two drops is also occasionally of service. Some practitioners have recommended the use of opium; but I have not used it in consequence of the tendency to head symptoms which exists in all cases where the structure of the kidneys is deranged; and, as in many cases, it is difficult to decide whether the symptoms are caused by mere mechanical irritation, or obstruction of the kidney itself, or whether they depend on general poisoning of the system from retention and circulation of urea and other excrementitious substances, which ought to pass out of the body with the urine.

#### ART. 31.—*Treatment of Albuminuria.* By Dr. OSBORNE.

(*Dublin Quarterly Journal*, Aug. 1851.)

The following remarks are an abstract of the concluding portion of an essay on albuminous urine, a general analysis of which will be found in our Report, § *Diseases of the Genito-Urinary System*.

Dr. Osborne states that he has never failed to remove the dropsical swellings in anasarca, accompanied with albuminous urine, when the healthy action of the skin is restored. The means of opening the skin are various, but in many cases they will all fail. General baths are, he thinks, rarely suitable on account of the deficient action of the skin and capillaries. The diaphoretic which he has generally used has been half a drachm of Ammoniated Tincture of Guaiacum; five grains of Sulphuret of Potassium; and half an ounce of Liquor Ammonia Acetatis, taken at bedtime, followed by a pint of hot whey. In acute cases he recommends local bleeding or counter-irritants to the loins. Mercury he believes cannot well be dispensed with in acute cases, but its exhibition requires caution.

Dr. Osborne also calls to mind that alkalescence is a necessary condition of the blood, and that the free alkali is soda, that when the soda fails, either from deficient supply, or want of power to compose the muriate of soda in the stomach, the result will be coagulation of the blood in the capillary vessels, and the phenomena of inflammation in those parts when such coagulation takes place; and that potash and soda taken into the stomach, either uncombined or as carbonates, have the power of rendering the urine alkaline, and of dissolving fibrine. On these grounds he reasons, that when in any disease, the kidneys contain fibrinous deposits within their vessels, the administration of alkalies should be efficacious. The combination which he uses is liquor potassæ and carbonate of soda, each two drachms in eight ounces of decoction of Carrageen moss. The dose is a table-spoonful every two hours taken in milk. When anæmia is very pronounced he adds the tartrate of iron.

In reference to the use of purgatives the author says:—"The use of purgatives may be easily overlooked in our anxiety to strike at the root of the disease; but their value can hardly be over-estimated, and is indeed limited by the tendency to gastritis and enteritis which so generally prevails. If it be true that the stomach and bowels have the faculty of eliminating urea, the tendency now mentioned must be viewed as an effort of nature to relieve herself, when the proper

emunctories fail to do so. Certain it is that a powerful purgative, such as elaterium, given at due intervals, tells more on the swellings, and exhausts the strength less, than the plan of daily purging."

In conclusion, the author speaks of the occasional advantage of emetics and of gallic acid.

## SECT. VI.—DISEASES OF THE SKIN AND CELLULAR TISSUE.

### ART. 32.—*On the Pathology of Lepra and other Scaly Diseases of the Skin.*

By R. B. TODD, M.D.

(*Medical Gazette*, May 16, 1851.)

[The views of the author on the pathology of the squamous diseases are thus expressed:]

In discussing this subject, the problem we have to solve is this—what can give rise to these remarkable patches on the skin? why do they assume their peculiar form and other characters? and why do they prefer particular situations of the body?

Now we gain an important clue to the decision of this question by our knowledge of the clinical history of syphilitic lepra. That knowledge amounts to this: by the contact of a certain diseased secretion a primary sore is generated; this is followed by more or less of febrile disturbance, sore throat, articular and periosteal affections, and a peculiar eruption of the skin. It may be taken as quite certain that the cause of all these morbid phenomena is to be found in the introduction into the system of a particular poison. That poison need not be introduced into the system through a mucous membrane; if it be brought in contact with an open surface on the skin, this is quite sufficient to procure its introduction into the system. In this way medical men sometimes become infected, as in a case which lately came before me:—A highly respectable practitioner attended in her labour a woman in whom it never occurred to him to suspect any syphilitic disease. It so happened that at the time he had an abraded surface on one of his fingers. An obstinate ulcer formed here, and secondary symptoms ensued, extending even to disease of the bones. He was at first quite at a loss to explain the cause of his symptoms, when the woman whom he attended applied to him to be cured of secondary symptoms, having an eruption exactly similar to his own; he at once saw the source of his affection.

It is through the blood that such a poison must be introduced; there is no other channel through which it can be so conveyed through the system and to such various parts.

We learn, then, that a particular poison generated in the body of another may, by its introduction into the blood, create an eruption on the skin which presents characters very much resembling those of common lepra; and the person in whom the poison is first generated may poison several others, giving rise to the same morbid phenomena in each.

Thus a particular modification of the syphilitic poison may produce, by its introduction into the blood, a leprous eruption on the skin. So, also, other poisonous matters will cause cutaneous eruptions; iodide of potassium will cause an eruption of urticaria or of herpes, or even an eruption of somewhat of the scaly character; mercury will cause a particular form of eczema. The poison of the exanthemata generate each its peculiar form of eruption; and the typhoid poison also occasions a very characteristic rash on the skin.

Surely, then, nothing can be more reasonable than to assume that the eruption of lepra vulgaris, so similar to the syphilitic form and affecting similar parts, is due to an analogous cause—namely, to the presence in the blood of a poisonous



agent. But the questions arise, how and where is this generated? can it be isolated? can it be communicated from one to another?

To the first question we may answer, that it is generated in the primary and multiplied in the secondary assimilating processes. But as to what gives rise to its generation we can form no definite idea: why it should be generated in one who is fed well and had plenty of work; and why it should also be generated in another who wanted work, and fared wretchedly, are not to be so easily explained. This, however, must not be forgotten as bearing upon these questions,—that an excess of food, or a supply of a kind of food which is not readily digested by the stomach of the patient in question, may derange the assimilating processes just as much as an insufficient supply of poor food.

To the second question we must answer, that the poison of lepra cannot be isolated, no more than we can isolate the syphilitic poison. But, in reply to the third question, it may be affirmed that, although the lepra vulgaris is not communicable from one to another, as syphilis is, yet, in another sense, it may be propagated from one to another; I mean, that, while it is not contagious, it may be propagated by hereditary descent.

And this latter fact, which I suppose the clinical history of lepra establishes to the satisfaction of even the most scrupulous, is favourable to the view of its pathology which I am endeavouring to advocate. For most—if not all—diseases which seem to arise from a *materies morbi* in the blood, are apt to be propagated by hereditary descent.

Another feature of these scaly diseases which favours this humoral view of their pathology is the disposition which the eruptions manifest to affect the skin symmetrically. Many diseases referable to a *materies morbi* exhibit this tendency to symmetry; as has been shown by Dr. William Budd, in a most valuable paper in the "Med. Chir. Transactions," in which he discusses with great ability the pathology of lepra and psoriasis.

To conclude, then, this part of my subject, which time forbids me to treat of at greater length, I would sum up thus: that as the syphilitic lepra is due to the introduction into the blood of a poison generated in the body of another as the result of impure and promiscuous sexual intercourse, so the lepra vulgaris is produced by a poison generated in the body of the patient—an effect of some disturbance of the primary and secondary assimilating processes; or of which the germs, as it were, were transmitted from either parent, and were multiplied in the secondary assimilating processes of the patient.

#### ART. 33.—*Galium Aparine* in *Lepra*. By Dr. WINN, Truro.

[Dr. Winn writes as follows to the "Medical Gazette:"]

"A gentleman, an acquaintance of mine, who had suffered for many years from lepra vulgaris, for which he had taken all the usual remedies without obtaining the slightest relief, informed me not long since, that he had at length found a remedy for his disease. He told me that it was a wild plant of which he did not know the name, but that he would show me the spot where it grew. On examining the plant, I discovered it to be the *Galium Aparine*, which grows so abundantly on the hedges in this country, and is commonly known by the name of cleavers or goose-grass. At the time I saw him he was taking a strong decoction of the plant, and under its use the rash was disappearing rapidly.

"On making inquiries, I find that three other parties have been cured of similar diseases by the same remedy. One of the parties had been discharged from St. George's and also from the Middlesex Hospitals about twenty years since, as an incurable patient. The remedy was introduced here about twenty years since by some German itinerant quack.

"I have not as yet had much experience in the use of this remedy. It appears to act as a mild diuretic, and may be given in large quantities, as it does not produce any injurious effect on the system. I use a decoction made by boiling a large handful of the plant in a quart of water for about twenty minutes. Of this decoction I give three parts daily."

*Medical Gazette*, Oct. 4.

ART. 34.—*Treatment of Eczema Impetiginodes.*

By JAMES BEGBIE, M. D.

(Lancet, April 12, 1851.)

[Dr. Begbie observes that the success he has witnessed in the treatment of several intractable disorders of the skin in the Hospital of St. Louis and chiefly in the service of M. Devergié, leads him to offer the few following observations, in the hope of directing attention to the employment of certain remedies, admirably adapted to the treatment of such cases.]

1. *Eczema Impétigineux: its Treatment.*—The association of eczema and impetigo gives rise to a very common and to a very obstinate form of disease. This complex disorder represents, in its earliest appearance, the characteristic features of the primitive eruptions of which it is composed—a greater or less number of pustules, such as those which occur in impetigo vulgaris, being mingled with the vesicles of eczema. At that, the early stage of the disease, the differential diagnosis between the compound eruption and either of those primitive forms of which it is composed, is easy. At a later period we possess another distinguishing feature in the formation of dense crusts after the rupture of the pustules, showing that the exudation which had originally taken place was more than pure serum—the characteristic of simple eczema. This is the affection which Bateman makes his second head of eczema, and calls *E. impetiginodes*. All, I apprehend, will be ready to acknowledge the frequent and great difficulty experienced in effecting a cure in this affection, which too often merits the appellation of inveterate. The plan of treatment I have seen adopted by M. Devergié in the treatment of this disease is not less simple than efficacious: it consists in the application to the affected part of the oil of cade. This oil of cade is a pyrogenic oil, prepared by the distillation of the trunk and larger branches of the old juniper. The oil itself has rather a pleasant pungent odour, a dark-brown colour, and somewhat thick consistence. M. Devergié thus employs it: he paints it over the diseased skin with a brush, and then, with a dry, but soft brush, rubs it in. Its application he repeats every three or four days, but not every day, as some recommend. The latter M. Devergié regards as a bad practice sufficient to account for failures in cure by the oil. This constitutes in most cases the entire treatment; for while, in all cases, the regulation of the bowels and the employment of a light and non-stimulating diet are enjoined, in few is any internal remedy of importance administered. The oil of cade is much used in Paris as an external medication in skin diseases, chiefly in vesicular and papular eruptions; the case of eczema impétigineux, however, M. Devergié regards as the one, *par excellence*, for its employment. The measure of success I have seen to follow cases so treated, certainly entitles the remedy to the high character M. Devergié has assigned it. I have seen a large number of cases so treated; the employment of the remedy, in most, has extended over a period of weeks, but in all, without exception, the results obtained have been most satisfactory. Lately a cure was effected by the employment of the oil of cade in a case of eczema impétigineux, in which the crusts assumed the nummular form; hence called by M. Devergié, *E. I. nummularis*—a form of the disease hitherto undescribed by authors, and most difficult to cure. I have noticed, in regard to the action of the oil in the case of eczema impétigineux, that it is the pustular development which is first arrested and overcome, in many instances, the case being reduced from a complex eruption of pustules and vesicles to a simply vesicular one, before a cure took place. This would tend to prove, that in simple impetigo and in ecthyma the oil of cade may prove a useful remedy; in these cases I have not as yet had proof of its efficiency.

ART. 35.—*Ichthyosis successfully Treated by Cod-liver Oil.*

By Dr. BANKS, Dublin.

(Dublin Quarterly Journal, Aug. 1851.)

[The author's case is as follows:]

Jane Armstrong, æt. 13, was admitted into the Whitworth Hospital in March, 1851. She is said to have had a rough skin from infancy. She appears half starved, and has not attained the size of a child of ten years old. The skin is exceedingly rough, but the lower extremities, with the exception of the inner part of the thighs, present the ordinary appearance of ichthyosis. She never remembers to have perspired. Immediately on admission the child was placed on the following treatment:—She was ordered a generous diet, and was to take a dessert-spoonful of cod-liver oil three times a day; she had a vapour bath every night, and on coming out of the bath, the whole body was rubbed with cod-liver oil, a flannel dress to be kept constantly next the skin. This plan of treatment was sedulously persisted in for three months, with the result of the gradual removal of the disease, and the most extraordinary improvement in the general appearance of the patient.

ART. 36.—*Erysipelas: Treatment of, by Muriated Tincture of Iron.*

By HAMILTON BELL, Esq., F.R.C.S.E.

(Edinburgh Monthly Journal, June 1851.)

The author's intention being solely practical, he does not enter minutely into the pathology of erysipelas; but in order to explain, in some measure, the principle by which he was actuated, in employing a powerful tonic in a disease accompanied with so much fever and excitement, he records his opinion, that in inflammation, the capillary vessels having apparently lost the power of separating or electing the component parts of the blood which are necessary for functional purposes, and become, to a certain extent, inert tubes, a stream of blood is admitted for the circulation of which they are not calculated.

The treatment which he has adopted for many years, without failure in a single case, is the exhibition of the muriated tincture of iron. The first object is to have the bowels freely acted upon. If the disease be mild, 15 drops are given every two hours; if more severe, 25 to 30 drops, persevered in night and day, whatever be the degree of fever or delirium. His only local applications are flour or cotton-wadding. Cases are appended in illustration.

The brother of the author, Dr. C. Bell, confirms the favourable report above given. He says he has given it in the idiopathic form, and in that consequent on injury, with equally good results, and he has found it useful at all ages, from infancy to advanced age.

So beneficial is this treatment in erysipelas, that Dr. C. Bell expresses his conviction that if boldly given in puerperal fever, many lives would be saved.

ART. 37.—*Treatment of Lupus in the Parisian Hospitals.* By JAMES BEGBIE, M.D.

(Lancet, May 3, 1851.)

Dr. Begbie notices that the most successful treatment of this frequently intractable disease, will be found in a happy combination of constitutional with local remedies. M. Devergie, whose practice he publishes, divides lupus into two forms, *lupus exedens* and *lupus non exedens*. It is of the former the author now speaks. This, the *lupus exedens*, may be further distinguished as *tubercular* and *non-tubercular*, the chief differences between these two being, that the tubercular form is deep in its ulcerations, rapid in its progress, hitherto little amenable to treatment, and has its seat almost without exception on the face. The non-tubercular is a true *lupus exedens*, yet is less rapid in its progress than the tuber-

cular, less deep also in its ulcerations, gaining extent more by the surface of the skin than by corroding deeper textures, is more amenable to treatment, and almost invariably has its seat upon the trunk; usually the back or shoulders are the parts affected by it. It has been seen but very rarely on the face. It is in the constitutional treatment of lupus that M. Devergié places most confidence, and the remedy which is most successful in his hands is the cod-liver oil. Many authors have spoken of a connexion subsisting between lupus and phthisis, and it appears at least to be true, that frequently patients suffering from lupus are carried off by tubercular deposit in the lungs and abdomen. The interest of this connexion will be increased if its existence may not be considered as having received a further proof, when the fact is established, that as in phthisis, so in lupus, the best, if not the only remedy, is cod-liver oil. The oil is sometimes prescribed after the English fashion, in dessert-spoonfuls three times a day; more generally the doses are smaller, and repeated at lesser intervals. In all the cases treated in this way, the oil has been prescribed immediately after the patient's entrance into hospital; in most, its continuance for a few days has been sufficient to produce a favourable change in the appearance of the disease, while in almost all its persistent use for a period of weeks has resulted in cicatrizations of the part affected, and in a greatly improved condition of the general health. Some cases resist this treatment, and that after a very fair trial of the oil; but in all these, it is worthy of note that the constitution was thoroughly impregnated with the syphilitic taint.

In cases of this kind M. Devergié adopts a mixed treatment, and in two such, the exhibition of mercury in small doses along with the oil was followed by the best results. Iodine in its various forms, and arsenic in its scarcely less numerous, is also employed in the treatment of lupus, but with results greatly inferior to those obtained by the cod-liver oil. In respect to local applications the proper period for having recourse to them is when constitutional treatment has failed to produce a perfect cure. The epispastics generally employed by M. Devergié is the chloride of zinc made into a paste with a little flour and water. After its application, which should be confined as nearly as possible to the part affected, the paste soon becomes solid and hard, it remains attached in general for about five days, after that it separates, and if its remedial powers have been properly exercised, a cicatrix is disclosed which remains permanent; if, instead of a cicatrix, fresh tubercles are found making their appearance, the paste must be again employed. It is comparatively seldom that two, and very rarely that more than two, applications of the epispastic are required. M. Devergié regards it as very favourable for a patient affected with lupus, to suffer a slight erysipelas, and the good effects of epispastics he considers to be due in a considerable measure to the occurrence of an erysipelatous inflammation in the diseased part.

Dr. Begbie's object in this communication is to direct attention to the efficiency of cod-liver oil in the treatment of lupus exedens. In the excellent work on diseases of the skin by the late Dr. Thomson, and edited by Dr. Parkes, mention is made of the employment of cod-liver oil in lupus, but not of the measure of success which followed its exhibition. The author's observations in Saint Louis allow him to speak most strongly on this point; and as embodying his experience in few words he gives the following conclusions:—

1. That the constitutional treatment of lupus by cod-liver oil is eminently useful and successful.
2. That when the constitution of the patient suffering from lupus is strongly affected with the syphilitic taint, a method of treatment such as that already adverted to in this communication will probably be found more successful than the exhibition of the oil alone.
3. That epispastics should only be employed when constitutional means have failed to produce a perfect cicatrix. Probably the best epispastic is the chloride of zinc.

ART. 38.—*Economic Formula for the treatment of Scabies.*

M. Courbassier gives the following recipe for a lotion, suitable to the wants of the most indigent itch patients. It consists of a mixture of soot, salt, and sulphur, in the proportion of four teaspoonfuls of the former to one each of the two latter; of this mixture, one teaspoonful mixed in a sufficient quantity of olive oil, is rubbed into the entire skin every night for seven times; it is then washed off. The author admits that this prescription is only suitable for the dirtiest of itch patients, to whom a little more or less of filth is of no moment.

*Gazette Médicale*, 19 Juillet.

ART. 39.—*On a peculiar condition of the Integuments connected with Anasarca of the Legs.* By Mr. NUNN.

(Reported in *Medical Gazette*, April 4, 1851.)

[The remarkable state of integuments alluded to is thus described by Mr. Nunn; for the accuracy of the portrait we can vouch, having an example of the disease at this moment under our care in the Norfolk and Norwich Hospital.]

In certain cases of dropsy, and especially in those dependent upon chronic heart-disease, towards the closing stage of that malady, when the legs have become infiltrated with fluid, and when the distension of the skin has arrived at a pitch which seems to threaten its vitality, it will be found that the cuticle gradually cracks, and that an exudation of serum takes place. The skin does not retain the waxy whiteness characteristic of anasarca, but changes to a reddish hue, or the cuticle separates from the true skin, and serum is poured forth more or less freely. The surface next becomes uneven, and, in the course of time, within a few weeks, the whole leg, from the ankle to the knee, is studded with elevations, varying from the size of a pin's head to that of a pea, which in some parts are grouped together, so as to cause larger protuberances. They are moist and shining; around their bases is a whitish pasty secretion, and serum oozes from their surface. A brownish green staining encircles the limb above the tuberculated part in some cases. This state is a result of anasarca, widely different from the ulceration following the formation of bullæ, or the large open sores produced by the separation of sloughs. It is a change, however, not of frequent occurrence, and has been mistaken for elephantiasis. It is attended with a great deal of pain and smarting. When the tuberculization of the skin is fully established, a profuse discharge of serum takes place, saturating the bandages. The fluid secreted has a peculiar faint sickly odour. It amounts to many ounces in the twenty-four hours. In proportion to the extent of the tuberculization and the amount of the discharge is the relief experienced from the oppression of the vital functions, particularly of the respiration. The beneficial change is most striking; the fluttering pulse, the furred tongue, hot, dry skin, parched lips, leaden countenance, and the laboured respiratory movements, disappear: the size of the body diminishes, the brain again becomes active, the aspect brightens, and the most sanguine hopes of ultimate recovery spring into existence. When, from any cause, the discharge of the fluid is suppressed, even for a few hours only, it is followed by cerebral disturbance and congestion, and by uneasiness about the cardiac region. From this Mr. Nunn infers that the actual disease causing dropsy is not sufficient to induce death; but that the secondary effects of the effusion upon the vital functions is the more direful of the two agents, and therefore that, if the fluid can find an exit, the patient may exist in greater or less comparative security. But, unfortunately, this effort of nature has a tendency not to be permanent. In the course of time the mammillations shrink, the exudation becomes scanty, and at last entirely ceases, the leg being covered with a dryish scurf. In one instance, the patient survived this last change for more than a year. The preceding statements were illustrated by the detail of several cases which fell under Mr. Nunn's observation, or to which he was called by professional friends, and he then commented on the mechanism

of the phenomena, first considering the nature of the discharge, and secondly that of the structural change which takes place in the skin itself. The fluid does not differ from ordinary dropsical fluid; it consists of water and albumen, with a certain proportion of the salts of the blood. No traces of urea could be found in it. Only one specimen, however, had been analysed, and Mr. Nunn, therefore, would be cautious in coming to a conclusion respecting its nature, as it is a point involving the important question of vicarious secretions. Mr. Simon's opinion is, that one organ can vicariously secrete for another only such materials as are common to both; if this be correct, then the presence of urea in the discharge cannot be expected. The relief afforded by the free discharge, Mr. Nunn, therefore, is inclined to attribute to the liberation of the parenchymatous organs from their load of serum, and their being thus enabled to perform their allotted functions. To illustrate the saturation of these organs, he mentioned that a kidney belonging to a person deceased from cardiac dropsy, was of double its usual weight, namely, eight ounces. With respect to the second question, Mr. Nunn was of opinion that the mammillations and tubercles were hypertrophied papillæ of the skin; and he further thought it possible that some noxious matters might be eliminated from the system with the serum. The next question to be considered was, how to favour the development of these secretory mammillæ, and to keep them in a sufficiently active condition. The first, he thought, would be effected by remedies which would soften the epidermis, and stimulate the circulation of the skin, without causing mischief, and both these objects he believed would be obtained by warm fomentations. The ordinary dressing should be a soft linen rag, slightly smeared with ung. cetacei.

## PART II.

# SURGERY.

---

### SECT. I.—SYMPTOMATOLOGY AND DIAGNOSIS OF SURGICAL DISEASES.

ART. 40.—*On the Microscope and the Exploring Needle as a means of Diagnosis in Surgery.* By PROF. SYME.

(*Edinburgh Monthly Journal*, Jan. 1851.)

[Mr. Syme puts but little faith in the above instruments as auxiliaries in Surgical Diagnosis, and warns his class not to trust to them. In an introductory clinical lecture, he says, in allusion to the subject:]

And here, gentlemen, I must beg to warn you against placing confidence in the use of certain means which have been proposed as assistants to diagnosis, but are too frequently employed as substitutes for the careful investigations most conducive to the attainment of this object. I allude more especially to the exploring needle and microscope, which are at present much in fashion for facilitating the recognition of morbid growths and deposits. It may seem, at first sight, that, with exception of the risk of exciting diseased action, which must always attend the thrusting of a foreign body through the living textures, no harm, at all events, can accrue from the information obtained in this way; but when the subject is more fully considered, I trust it will appear to you in a different view. For, in the first place, it must be admitted, that reliance upon such assistance encourages a lax and imperfect exercise of the other means which we possess for discovering the truth; and, secondly, it cannot be denied that reliance may be placed with much more safety upon the latter than upon the former alone.

It is upon such grounds that I have always had a great distrust of the exploring needle. But the microscope seems to me still more apt to mislead; and I am glad to take this opportunity of protesting against the importance which at present is most unduly attributed to it as a means of distinguishing morbid growths. After making this statement, it would be useless to quote any experience of my own upon the subject, as the results would be attributed to prejudice or want of practice; and I will, therefore, select from the numerous mistakes that crowd into my memory, one that lately happened to a surgeon who has written strongly in favour of microscopical examination, who occupies a prominent place in his profession, and who was led to investigate the particular case concerned with peculiar care. The patient suffered from a tumour, which threatened to prove fatal, and of which a small portion being subjected to the microscope, appeared to present the characters of a malignant deposition. Biassed, no doubt, by this impression, the surgeon finally resolved that the case did not admit of remedy. The patient then applied to me, when, paying no regard to the microscopical texture of the tumour, I carefully considered its situation, connexions, and history—with the conclusion that it was not connected with any unhealthy condition of the system, and that it might therefore be re-

moved with every prospect of permanent relief. Acting under this persuasion, I performed the operation which was requisite, with the most satisfactory result. In short, gentlemen, I would say that the assistance which exploring needles and microscopes afford in the practice of surgery, may be compared to that which a lame man derives from the use of crutches. If he cannot walk without their support, he must, of course, avail himself of it; but need never expect to walk so well as one who is independent of such artificial aid. It is far from my intention to deny that the microscope may be of service in promoting the minute researches of anatomy, physiology, and pathology. But I maintain that it can never supply the want of that knowledge of obvious structure and sensible action in health as well as disease, which is essential for the discrimination of morbid textures with a view to their remedy.

**ART. 41.—On Hysterical Affections of the Hip-joint.**  
By MR. COULSON.

(*London Journal of Medicine*, July 1851.)

Mr. Coulson gives the following diagnostic signs of nervous, as contradistinguished from organic, disease of the hip-joint:—

In the nervous affection pain is felt from the commencement in the hip, and extends to the loins and down the thigh. There is great nervous excitability and extreme sensitiveness in the part; and the patient, from the first, is unable to walk. Combined with this extreme suffering, the trochanter major retains its proper bearing to the spine of the ilium. There is not the characteristic wasting of the glutei muscles, and, consequently, no flattened appearance of the nates. Pressure in these situations, when the bone approaches the surface, does not excite greater pain than elsewhere. There are no involuntary startings during sleep. On the contrary, the patient sleeps calmly through the night. In true hip disease the reverse is the case, the sleep, if unaided by opium, is broken by sudden shooting pains and frightful dreams, or vague anticipations of coming pain.

Of the pathology of the disease Mr. Coulson admits that little is known. The joint is healthy in structure. He asks whether the spine is not in a morbidly excited state, and responds truly, or whether the brain is not itself perverted as to its functions, and the pain is not a delusion? His own opinion inclines the other way, and he looks to the sensorium as the organ chiefly affected.

With regard to the treatment, he remarks, that if it be mistaken for organic disease, the line of practice adopted on that supposition will be positively injurious. The patient must be persuaded to leave her couch, and to take air. The diet must be plain and nutritious. Among medicines, he prefers the vegetable tonics and antispasmodics—as valerian. Copland has found most benefit from turpentine internally by enema, but he also associates various tonics and local sedatives.

**ART. 42.—On the Position of the limb in Diseases of the Hip-joint.**  
By HOLMES COOTE, ESQ., M.R.C.S.

(*Medical Times*, May 17, 1851.)

Mr. Holmes Coote makes the following observations on the difficulties attending the diagnosis of this affection:—There are but few surgeons who have not experienced occasional difficulty in forming an accurate opinion as to the character of the morbid changes which occur during life in chronic disease of the hip-joint. In the early stages there is frequently but little pain, and children so affected, especially amongst the poorer classes, are permitted to walk about and pursue their daily avocations, without notice being taken of their lameness, until at last a fall or some other accident excites more acute symptoms, and induces



the parent to seek professional assistance. The surgeon finds the pelvis oblique; the affected limb apparently elongated, and slightly everted; he finds that in bending the thigh upon the trunk, the whole pelvis moves with the femur; pressure over the hip-joint excites, perhaps, little pain; there is flattening of the buttock, and the trochanter major appears more sunken than natural. The history accompanying such a case is often as follows:—The child was in perfect health, and able to run about until about a week or two ago, when, in consequence of an accident, it was thrown down upon the side. Upon being taken up, it was found to be lame and has been unable to walk ever since. The history of the case, and the position of the limb, might lead to the belief that the head of the bone was dislocated upon the thyroid foramen, especially amongst those who consider that inversion and not eversion of the foot, is the position assumed by the inferior extremity in the earlier stages of hip-disease. I propose offering a few remarks upon the position of the limb, granting that, as is commonly asserted, there may be inversion and not eversion; that there may exist a resemblance to dislocation on the dorsum ilii, or to dislocation on the thyroid foramen; but denying that such varieties can ever be referred to accident.

In the commencement of an inflammatory affection of the hip-joint, the thigh is bent upon the body; the whole limb is slightly everted and abducted; the anterior superior spinous process of the ilium of the affected side is either raised, when the limb appears to be shortened, and the sound hip more sunken than the opposite, or it is depressed or thrown forwards, when the whole limb appears elongated, the knee being bent, and the toes touching the ground a short distance in front of the toes of the sound limb.

The elevation or the depression of the anterior superior spinous process of the ilium of the affected side depends upon whether the patient happens to have been forced to follow his occupation during the early stages of the disease, or whether he has been in circumstances which allowed him to rest when in pain or uneasiness. The spine of the ilium is generally sunk and thrown forwards, and the limb apparently elongated; that position being the one in which the diseased joint will be easiest, the patient standing upright. But if he be forced to walk about, the pelvis becomes oblique in the opposite direction, the spine of the ilium is raised, and the limb is apparently shortened. The patient, throwing as much as possible of the weight of the body upon the sound side, limps upon the extremities of the toes of the affected limb, the foot being extended that its tip may just touch the ground.

The flexion, eversion, and abduction of the limb constitute the position into which it would be naturally thrown by the combined action of the powerful muscles which surround the hip-joint. The synovial membrane is inflamed and tender, and unfit to bear pressure; the patient, therefore, instinctively endeavours to relax every muscle directly in contact with the joint. The *psaos* and *iliacus*, passing over the front of the synovial membrane and tightly pressing upon it where the limb is extended, flex and evert the thigh, the *gluteus minimus* will contribute to flex it; the *pyriformis* will abduct the limb; the *gemelli* and the two *obturators*, especially the *obturator externus*, will evert the limb; it is unscientific to refer the position of the limb to effusion of fluid into the synovial membrane; it is but rarely that we find the joint so distended, especially at the commencement of the disease, when eversion is the common symptom. It may be true, that if the joint be tightly distended by the artificial injection of fluid after death, the limb will assume the position above described. The attachments of the capsular ligament are in harmony with the sphere of action of the muscles which surround the joint. That the muscles which evert the limb may act with greater freedom, the fibrous capsule is unconnected with the posterior part of the neck of the femur; it forms there a ring not very unlike that which surrounds the head of the radius in the forearm. After a sudden fall, or a blow on the hip, the limb becomes at once everted, if the joint is bruised, long before sufficient time has passed for the capsule to become distended by fluid.

In course of time, as has been proved by innumerable *post-mortem* examinations, the disease produces thickening of the synovial membrane, absorption of the articular cartilage, and ulceration both of the head of the femur and of the

acetabulum; the shortened neck of the femur slipping upwards and backwards in the enlarged acetabulum, approximates the fixed points of insertion of all those muscles which have everted the limb. They waste and become atrophied, being no longer in action, and the buttock appears much flatter than on the sound side. The gluteus medius and the adductor muscles then influence the position of the limb, their power being increased by the absorption of the neck of the femur. We may therefore say that, in the second stage of the disease, the limb passes from abduction to adduction; from eversion to inversion. Still flexed it is drawn across the sound thigh, the toe pointing downwards, when the position somewhat resembles that of a limb in dislocation upon the dorsum ilii.

ART. 43.—*On Pus in the Urine: its diagnostic value in Diseases of the Genito-Urinary System.* By J. HAMILTON, Esq., Surgeon to the Richmond Hospital, Dublin.

(*Dublin Quarterly Journal*, May, 1851.)

The author observes that pus may appear in the urine under difficult aspects:

1st, as an uniform deposit of a pale-white colour subsiding after micturition, but capable of being diffused by agitation. This is pure pus in acid urine.

2dly, mixed with mucus in acid urine, presenting an uniform tenacious yellowish-white deposit, showing irregular pus dies under the microscope.

3dly, after being acted upon by the ammonia of decomposed urine, it appears as a thick, ropy mucus, with some transparency beneath, and exhibiting a superstratum of yellow opaque pus.

Pure pus may get into the bladder from the bursting of a neighbouring abscess, as in the broad ligament in females, or the prostate gland in men; of these the author gives examples.

When pus is mixed with the urine from inflammation of the vesical mucous membrane, a very essential difference is observed. In these cases the urine enters the bladder acid, and becomes mixed with the purulent and mucous secretions of the inflamed membrane. If these are not very abundant the urine remains acid, and is passed so, but on standing soon becomes decomposed, and ammonia is generated, which acts on the pus and converts it into a thick, ropy mucus. It also combines with the phosphate of magnesia in the urine, and forms the triple phosphate, which either floats on the surface as an iridescent pellicle, or is fixed as prismatic crystals in the mucus deposit.

If, as in paraplegia from injured or diseased spine, the urine is long retained in the bladder, it undergoes certain changes, the deposit takes place in the bladder itself, and the decomposition of the urine next the deposit commences, while the superstratum remains acid. But when the inflammation becomes more intense, and the morbid secretions very abundant, the whole of the urine will become alkaline in the bladder.

ART. 44.—*Spontaneous Luxation of the Shoulder-Joint.*

By M. HANNON.

(*Pressé Médicale Belge and Archives Générales*, Juillet, 1851.)

Spontaneous dislocation of the hip-joint, as a consequence of disease, is a familiar occurrence to surgeons, but it is very rare to meet with a similar lesion in the joint of the shoulder. The following interesting example is recorded by M. Hannon, in which the humerus was displaced during the course of an attack of acute arthritis:—

A man, æt. 45, of robust constitution, became the subject of rheumatic inflammation of the shoulder-joint. The pain was acute, the tongue furred, skin hot and perspiring; and, in fact, he had all the symptoms of rheumatic arthritis in its most acute form. The swelling of the shoulder appeared on the second day, and continued to increase until the sixth day, when the patient suddenly felt a sudden tearing pain, which was the indication of the head of the humerus

having left its situation. When examined next day the elbow was separated from the trunk, the arm turned outwards, the fore-arm flexed, and held by the other hand; the shoulder was flattened. Passing the fingers under the acromion, a cavity was at once perceived, and the head of the bone was found in the axilla.

The dislocation was reduced, and the bone maintained in its place by proper bandaging, and from this time there was considerable relief to the pain, as well as subsidence of the tumefaction of the joint. A few days after a second partial dislocation occurred, but this was again reduced, after which the patient made a good recovery.

## SECT. II.—NATURE AND CAUSES OF SURGICAL DISEASES.

ART. 45.—*On Epithelial Cancer.* By G. MURRAY HUMPHREY, Esq., Surgeon to Addenbrooke's Hospital.

(*Provincial Medical and Surgical Journal*, Sept. 3, 1851.)

[We extract the subjoined remarks from a Course of Lectures delivered in the Medical School of Cambridge, and to which we have before been indebted for contributions. The author divides cancer into four varieties:—1. Epithelial cancer. 2. Schirrous and encephaloid. 3. Melanic cancer. 4. Alveolar or gelatiniform cancer. The first only is here spoken of:]

The epithelial cancer affects usually the skin or a mucous surface in the first instance. It differs from the other forms of cancer in being composed almost entirely of cells more or less flattened out, and closely resembling those of ordinary epithelium; it does not present the malignant qualities in so marked a degree; it is more tardy in its progress, sometimes remaining for months or years in a quiescent state, or growing very slowly; it generally appears at some part of the skin or mucous membrane which has been exposed to a long-continued irritation, and its ravages are confined to the vicinity of that spot and to the adjacent absorbent glands; that is to say, it does not often make its appearance in any other organ, being, in a greater measure than the other forms of cancer, a local affection, less associated with any particular diathesis, and much less likely to return after extirpation.

For these reasons some pathologists are inclined to exclude the epithelial species from the family of cancer; mistaking, as it appears to me, differences in degree for differences in kind, inasmuch as the epithelial disease does really present all the leading features of cancer, though it may do so in a less decided and less active manner than the other members of the class. It is attended with the destruction of the original tissues whenever it occurs; it possesses the quality of spreading from point to point, assimilating the adjacent tissues of every kind and in every direction, and reducing them all to one homogeneous structure; it affects the neighbouring absorbent glands, converting them also into a substance like the parent mass; and it is prone to decay and ulceration; moreover, it is unceasingly destructive; it yields to no treatment, and pursues its relentless course till death puts a stop to its ravages.

Watch the progress of the disease when it affects the lip, by far its most frequent seat. It usually begins on the edge of the lower lip, a little to one side of the middle line, probably at the spot where the pipe is habitually rested. I have seen it in the middle of the lip, originating in one of those cracks which are often so troublesome in that situation, and in two or three cases have met with it in the upper lip; in one of the latter it originated in the cicatrix of a wound inflicted several years previously. A slight thickening or wart-like elevation of the skin is generally the first symptom; the cuticle is also thickened at

the part, and, in course of time, becomes rubbed or scratched off, leaving the surface a little abraded or cracked, or superficially ulcerated. Upon this succession of scabs are formed and detached, while an increasing lump is produced underneath them, and the ulceration proceeds deeper; so that in the course of time a considerable ulcer is engendered with an indurated basis, an excavated, or deeply fissured, or warty surface, covered with white dirty secretion, or perhaps with pale firm granulations, and having a sinuous, raised, everted margin. The discharge from these ulcers is thin and pale, like serum; occasionally it is mixed with blood. They are not painful or tender, and the patients often think little of them. However, they gradually increase, extending along the margin of the lip and towards the chin, the thickening and induration preceding, the ulceration following, till the whole lip and part of the cheek may be involved in the disease. Before such extensive ravages have been effected, the absorbent glands under the jaw are generally found to be enlarged and hard, the skin over them becomes adherent and inflamed, and ultimately giving way, an ulcer is formed which extends deeply, presents the usual cancerous aspect, and leads to the like fatal termination. If a section be made through the ulcer in the lip, even in an early stage, its indurated basis is found to consist of a compact, opaque white, pearly substance, of uniform appearance, or speckled, it may be, with small yellowish spots, which are softer than the rest of the mass, and which are generally situated in greatest numbers near the ulcerated surface. In this substance all the natural tissues of the lip are blended and lost. Not only are the skin, the mucous membrane, and the labial glands transformed, or assimilated by the new structure, but the muscular fibres of the orbicularis as well as the areolar and fibrous tissues are traceable into the mass and are lost in it. When examined under the microscope, the new substance is found to be composed almost entirely of flattened cells, like those of epithelium, compressed together, and arranged in laminae superimposed upon one another. Some of those which are newly formed or which are swollen by the imbibition of moisture, are round, oval, or fusiform, and present nearly the characters of the ordinary cancer cell. It is an interesting fact, first announced, I believe, by Mr. Paget, that the microscopical characters of the diseased absorbent glands correspond with those of the primary disease in the skin; the glands, like the tissues of the lip, being converted into masses of flattened and closely compressed scales, intermixed with cells in various stages of transformation. This fact, taken in conjunction with the acknowledged success that attends the removal of epithelial cancer of the skin, makes us somewhat bold to extend our incisions for the purpose of extirpating also the morbidly-affected glands.

The disease is most commonly seen in elderly men, though middle-aged and even younger men are sometimes affected by it. The patient's health generally appears to be good till it becomes impaired by the distress, discharge, and inability to masticate, occasioned by the extensive destruction of parts about the mouth. A complete and permanent cure in most instances follows the entire removal of the mass by the knife, which should be done at an early period; before the absorbent glands are involved, if possible, because they are sure to enlarge and lead to the results just described when they have begun to participate in the disease. Occasionally we find this to be the case after the operation, although there was at the time no evidence of their being in a morbid condition. In three or four cases, after the removal of the mass from the lip, and when the cicatrix remained perfectly sound, I have known the disease spring up in the periosteum, make its way through the jaw, and destroy the patient. Even the complete excision of the portion of the jaw thus involved does not always save the patient.

In the cancer of the penis and of the scrotum the progress of the disease is very much the same as in the lip; the ulcer originated in a pimple, a wart, or a little thickening of the skin, has the same foul or coarsely granulating surface, everted edge, and indurated base, goes on increasing with equal or even greater virulence, involves the inguinal glands, and destroys the patient in a shorter space of time than the corresponding affection of the lip. I have seen the disease at the anus, on the extremities, the trunk, the face, and head, and

believe it may attack the integuments at any part of the body. It presents very much the same characters, and runs the same course in whatever situation it occurs; exhibiting the qualities of malignancy in a sufficiently marked manner, quite as strongly, indeed, as we could expect, considering that it is very generally the result of some local irritation.

Nevertheless, it must be admitted, and this is one of the most interesting features in their pathology, that these cutaneous growths vary a good deal in their malignancy;—so much as to constitute, it would seem a very instructive link between simple hypertrophy and genuine cancer—between an ordinary wart and well-marked scirrhus, proving that these diseases must be studied in their relation to one another no less than in their points of difference, if we would attain a correct idea of their real nature. There is good reason to think that the neglect of this mode of considering the subject, together with the too great stress which is usually laid upon the distinctive features of cancer, has been the source of many narrow views, if not of much misconception, upon this very important class of disease. Any information upon this subject which the cutaneous growths may afford, is peculiarly valuable, because they are directly under our observation; and if there be any relation between simple and malignant disease, we may expect to find some evidence of it in them.

Now, there are numerous instances of warts occurring upon the skin in elderly persons, respecting which we have a difficulty in deciding whether they be cancerous or not, and which we are in the habit of extirpating, because we know that if they are allowed to remain they will go on increasing, will in the long run ulcerate, affect the adjacent glands, and terminate fatally. For example, a healthy man, *æt.* 63, was in John's ward, a year ago, with a broad, flat, warty growth on the right temple; it overhung the surrounding integuments, which was purplish and a little pimply. The surface of the growth was covered by a soft, white secretion, and when this was washed away it was seen to be granular and warty, with superficial ulceration at places. There was no induration about its base, and no enlargement of the adjacent absorbent glands. It had commenced a year and a half previously. About the nose was several small pimply or warty elevations of the cutis, which he said had existed for a longer time than that on the temple, though the latter at its commencement resembled one of them. I removed the growth, completely dissecting it away from the temporal fascia, to which it was loosely connected by cellular tissue. After the wound had healed there was a return of the disease at one spot in the edge of the cicatrix, requiring a second operation, which left him quite well. A short time ago the part was sound, and the warts on the nose remained unaltered. A section of the mass showed it to be composed of pale, blunt, thick fibres, parallel to one another, and at right angles to the surface of the body, doubtless enlarged and elongated papillæ, together with epithelial sheaths of papillæ. This appearance is often seen in cases of the like kind, and is probably the result of a change analogous to that which causes the thickened striated condition of the intestinal muscular coat accompanying cancer of the bowel. The association of an actively increasing warty growth with a number of others of similar appearance which remain in a quiescent state is very common. I remember a chimney-sweep, the subject of cancerous ulcer of the scrotum, whose skin was covered in many parts of the body with little warty elevations, attributed by him to the same cause as the more malignant disease in the scrotum, *viz.*, the irritation of the soot. They were in a quiescent state, and hardly attracted attention.

[The author here narrates two cases of warty growths, both of which ultimately caused death. He then proceeds as follows:—]

These warty growths, which exhibit the stubbornness, and are apt to assume the destructiveness of malignant disease, are almost always met with in elderly persons. It is the best plan to extirpate them at once, where that can be done, and not to waste time in the application of caustic and other remedies, which are more likely to excite than to repress the growth, and which often hasten the enlargement of the absorbent glands. I remember regretting that I had treated with nitrate of silver a warty growth of this kind on the labium, in a woman, *æt.* 60; for though the growth was without induration, presenting the appearance

of a simple affection, and was diminished in size for a time, yet it subsequently advanced more rapidly, the inguinal glands participated in the disease, ulceration took place, and proceeded as in ordinary cancer, and the patient died.

Perhaps it may be stated, as a general rule in these and in other affections of a similar kind, that the degree in which the natural structure of the part is altered, will be found to be proportionate to the malignancy of the disease. Thus, where the change consists simply in an outgrowth of the papillæ, with a thickening of their epithelial coats, after the manner of the wart, there the mass is slow in its increase, slow to extend to the stratum of tissue under the skin, slow to ulcerate, slow to make any impression upon the absorbent glands, and may be removed with great prospect of a complete cure. Secondly, where the warty disposition is less manifest, the alteration of structure being attended rather with a destruction of the papillæ than their hypertrophy, and with the substitution of flattened cells, like those of epithelium, for the natural tissue of the cutis; there the malignant qualities are more evidently displayed, the mass increases more quickly, extending beneath the skin, involving the subcutaneous areolar tissue, muscular fibres, and even the bones; it ulcerates at an earlier period, the absorbent glands are more quickly affected, and we are not quite so free from apprehension of a return after removal. Still the disease is generally local, unattended with any constitutional indisposition, and is not likely to appear in distant parts. In the third class of cases, which comprises the scirrhus or encephaloid cancer of the skin, the morbid elements have still less relation to those naturally existing, the tissues are replaced, not by epithelial, but by cancer cells, or nuclei—that is to say, the new products do not exhibit a tendency to liken themselves to any one of the components of the skin, but assume the form, and are endowed with the endogenous productive qualities of cancer-cells; they breed others in their interior, instead of being themselves transformed into any kind of tissue. In these cases the disease commences, not with a wart, but with a tubercle, spreads quickly in all directions, ulcerates, attacks the absorbent glands, and is commonly associated, either as a primary or secondary affection, with cancer of some other organ; its removal, therefore, is attended with comparatively little hope of a permanent cure.

The warty growths described by Mr. Cæsar Hawkins and others as cicatrices, more particularly in the cicatrices of burns, partake, I suppose, in a greater or less degree, of the nature of epithelial cancer, being, for the most part, intractable by ordinary means, and requiring extirpation for their cure. I have not happened to meet with any cases of this kind.

Epithelial cancer attacks mucous surfaces, no less than the skin; sometimes commencing under the tongue, about the orifices of the salivary ducts, in the form of an indurated elevation of the membrane; it extends upon the jaw, and the under surface of the tongue, as in the case of the woman from whom I lately removed the mental portion of the jaw, the anterior and under surface of the tongue, and the parts intervening between the two. The patient recovered, and has not at present (six months after the operation) suffered any relapse. In another woman the disease, commencing at the same spot, had involved the submental and submaxillary absorbent glands to too great an extent to admit of extirpation, and proved fatal within two years from its commencement. More commonly it attacks the tongue, beginning on one side, opposite the molar teeth, with a little thickening and induration of the part; the papillæ being sometimes prominent, so as to give it a warty appearance, ulceration soon follows, and extends into the substance of the organ. The pain or inconvenience attendant on the early stage of the disease not being great, we frequently do not see the patient till an excavated ulcer of considerable size has been formed, with a raised indurated base which extends probably to the side of the fauces, and involves the mucous membrane between the tongue and the jaw. The ulcer has a foul, grayish surface; and the induration is caused, as in other cases of the like kind, by the infiltration of a new product in the structure of the organ, and its substitution for the natural tissue. Examined microscopically, this new product is found to consist of epithelial cells, compressed and matted together, perhaps concentrically arranged, or elongated, and showing some tendency to split into fibres.

In the further progress of the disease the palate and lower jaw, and submaxillary glands become involved, the movements of the tongue and jaw are impeded, deglutition is difficult, the flow of saliva increased, the breath fetid, and the patient's condition is altogether very miserable during the short period of life which remains.

On the whole, there can be no doubt that, although it often is excited by a local source of irritation, such as a decayed tooth or stump, the epithelial cancer of the mucous membrane of the tongue and mouth, is far more actively malignant in its progress than when it affects the skin. Indeed, I think it exhibits in this situation as rapid and as determined destructiveness, with, perhaps, as great disposition to return after extirpation, as do the scirrhus and encephaloid cancers in other parts of the body; though it is not so likely to affect distant organs. Our hopes, therefore, of ultimate success from operative interference, are far less than in the treatment of the corresponding affection of the skin. Nevertheless, we may give the patient the benefit of the chance, when there is a fair probability of our being able to remove the entire mass.

ART. 46.—*On the Nature and Causes of Genu Valgum, or Knock-Knee.*

BY PROFESSOR BOCK.

(*Bibliothek für Jagen and London Journal of Medicine*, Aug. 1851.)

The most common deformities of the knee-joint may be arranged under the four following heads.

1. Contraction of the knee (*contractura genu*) is the name given to the condition in which the knee is in a state of abnormal constant flexion, with considerable, little, or no power of motion in the joint.

2. Recurved knee (*genu recurvatum*). Here the knee is in a state of superextension, and the popliteal space forms the apex of an angle pointing backwards.

3. Genu varum, or bow-leg: called by the Danish wheel-leg (*Hjulbenet*.)

4. Genu valgum, or knock-knee: in Danish, calf-knee (*Kalvekneet*); in German, goat's-leg (*Ziegenbein*), X-leg (*X bein*.)

The name genu valgum is borrowed from an imperfect analogy with pes valgus. In the latter, the foot is thrown outwards. In genu valgum, it is not the knee, but the tibia which is pressed outwards; and the more correct denomination would, therefore, be tibia valga, if the analogy with the foot were preserved. The same is the case with genu varum.

Genu valgum has been but imperfectly described in surgical works. Prof. Bock has for some time been collecting materials for a more accurate knowledge of this deformity, and now publishes the results at which he has arrived.

*Pathology.*—In the normal condition, the knee-joint deviates from the long axis of the lower extremity, on account of the greater extension downwards and inwards of the inner condyle of the femur.

The thigh-bones hence converge downwards, especially in females, in whom the pelvis is wider, and the neck of the thigh bone is larger and directed more outward. It is the unnatural exaggeration of this condition to which the name of genu valgum is given. It might be supposed, that this affection is more frequent in the female sex: such, however, is not the case, for it is far more rare in women and girls than in men and boys. Both knees may be affected, but one is generally more so than the other: and it is then almost always the right knee which is the chief seat of the disease. When one knee alone is affected, it is the right in about twice as many cases as the left. The origin and progress of the disease are gradual and almost imperceptible.

The knee forms the apex of a triangle, the other angles of which are at the ankle and the great trochanter, so that the base consists of the straight line which may be drawn between these points. The altitude of the triangle, or the perpendicular line from the knee to its base, points out the greater or less degree of the disease; this may naturally be denoted by the anomalous proportions of the angle at the knee, which, from being very obtuse, becomes, in the more advanced stages, a right or even a very acute angle.

On examining the knee, the following changes are found:—On its anterior surface, the united large tendons of the extensor muscles, and the ligamentum patellæ, are found much stretched; and the more so, in proportion as the knee is bent backward as well as inward. The patella is displaced outwards; so that, in a more advanced stage of the disease, it rests on the external edge of the knee, in front of the condyles of the femur and tibia. The knee loses its natural convexity forward, and becomes acute-angled on its anterior and outer edge; and the anterior part which lies more interiorly forms a plano-convex region in front of the inner condyle. On the outer surface of the knee, or in the angular bend, we often find the tendon of the biceps much stretched, as well as one or two portions of the external ligaments extended into sharp strings. The external condyles, both of the femur and of the tibia, are small, and can scarcely be felt in the more advanced stages of the disease. When the curvature is very remarkable, there is a transverse furrow in the skin on the exterior part of the knee. The natural hollow of the ham is obliterated; and the posterior surface of the knee-joint is more or less plano-convex. The inner surface of the knee forms the obtuse apex of the angle; and here the internal condyles of the femur and tibia are felt always prominent, usually hypertrophied, and, in rachitic cases, enormously swelled.

The condition of the whole extremity is at the same time changed. The thigh assumes an oblique direction downwards and inwards, towards the opposite knee. The knee is directed inwards, against or behind the sound knee, and the shin-bone assumes a direction downwards and outwards, so that the foot is at a great distance from that on the sound side. As the disease advances, the direction of the foot is changed: but this will be treated of under the head of complications. In children, where the affection is of a truly paralytic nature, and has followed convulsions, there has been constantly observed a sinking of the temperature, as much as two degrees, in the diseased limb. In grown persons, the author has not found this symptom. In consequence of the bending of the limb, the distance from the pelvis to the sole of the foot is diminished; the direction of the pelvis in walking consequently becomes oblique, so that the anterior superior spine of the ilium may be found an inch lower on the affected than on the sound side. This obliquity of the pelvis becomes gradually permanent, so that it is observed both during walking and standing. In cases where the deformity has not yet reached a high degree, and in children, the limb can generally be brought back with the hands to its natural position: but the tension is felt to increase in the biceps femoris and external ligament of the knee-joint; and, when the force is removed, the limb instantly resumes the bent position. In rachitic cases, not only the internal condyle of the femur, but also, in a still higher degree, that of the tibia is enlarged. The concavity inwards, which is naturally formed by the tibia, is obliterated; and, in the more advanced stages, there may even be a pretty conspicuous convexity, so that the whole extremity more resembles a bow curved inwards than an angular bending. The knee-joint generally retains its mobility. In the higher degrees of curvature, this is indeed somewhat limited; but either true or false ankyloses are seldom met with as consequences of the affection of the knee which has been described.

When both legs are curved, the right leg is always slightly more bent than the other, and the apices are turned towards each other. This has given rise to the German designation of the disease—X-leg (*X-bein*).

In this affection, the patients halt in a peculiar manner. If one bone only is affected, there is a lameness—(a) because one extremity is too short; (b) because the foot of the diseased limb falls beyond the centre of gravity of the body; (c) because the affected knee, in walking, both hinders the free swinging motion of the healthy knee, and is in its turn impeded by the latter. Each of these causes has distinct results, which modify both the direction of the limb and the lameness. When the extremity is too short, there is a natural attempt to compensate the defect; and this is effected partly by the already mentioned obliquity of the pelvis, and partly by the formation of a curve in the healthy leg. In healthy individuals, who have for some time had genu valgum, there will almost always be found a slight but true contraction of the knee in the sound leg. But in children, almost without exception, the other knee will become curved, either



as genu varum or valgum. The outward direction of the tibia and foot causes the peculiar up-and-down lameness to become rotatory and swinging, like mowing, and this swinging is increased, to prevent the collision of the knees during walking. In the more remarkable modification, the body seeks to maintain its equilibrium; and it attains this object more completely than in many other forms of lameness—e. g., from congenital dislocation of the thigh. This is partly affected by the position of the pelvis, and partly by a greater degree of mobility in the lumbar vertebrae. The diseased leg is generally sufficiently powerful, in persons affected with genu valgum, to enable them to walk for some distance. Naumburg has compared their gait to that of ducks; but this is scarcely correct. The gait is more swinging than waddling, as in persons with rachitic distortion of the pelvis or double congenital dislocation of the hip-joint. The patient who has genu valgum in one leg, endeavours, while standing, to preserve the centre of gravity by moving the sound leg somewhat outward beyond its natural position. Hence the points of support in the feet are at a greater distance from each other, and the surface within which the centre of gravity of the body can fall is greatly increased. Patients with double genu valgum usually, when standing, support the knees against each other, so as to form there a mediate resting point for the body, while the feet stand out from each other.

*Complications and Secondary Deformities.*—These are more various in this than in any other deformity whatever. Where the disease has commenced in youth, a curvature of the spinal column will generally be produced by the obliquity of the pelvis and the lameness. The affected limb is not unfrequently more or less atrophied. Ankylosis of the knee-joint rarely occurs, unless some chronic disease have preceded or accompanied the deformity. Prof. Bock has, however, seen two cases of ankylosed knock-knee in elderly persons; in these the limb was also directed backwards. But it is the feet which are especially influenced by the gait produced by genu valgum; and hence knock-kneed patients have, almost without exception, some deformity or other of the feet. The patient may, in consequence of the abduction of the tibia, tread and walk on the inner edge of the foot, which hence often becomes callous. Hence there is a disposition to flat-foot, which is the most frequent complication. But, almost as frequently, the genu valgum is complicated with club-foot; and, as the shortness of the limb leads the patient instinctively to endeavour to touch the ground with the points of his toes, it is evident that these forms will be accompanied by a greater or less degree of talipes equinus. It has been hitherto impossible to determine the reason, why these secondary deformities of the feet should in some cases assume one form, and in others another. In certain peculiar cases, the deformity of the knee is secondary. A patient in Dieffenbach's ward had had, from childhood, *cyphosis incurvata* of the lumbar vertebrae; in his youth varus had been developed in both feet, and, in his sixteenth year, he had become knock-kneed in both legs. Not uncommonly there is genu valgum on one side, and genu varum on the other, accompanied by the same, or by distinct deformities in the feet.

*Causes.*—There is no doubt that genu valgum may be congenital; this is, however, a rare occurrence. The causes of the development of the affection in latter years are partly external, partly internal, but most frequently both are combined. The greater convergence of the thighs in women may be supposed to be a predisposing cause; and Lessing says that this affection is more frequent in females than in males; this is, however, incorrect, for the deformity is twenty times more frequent in the latter sex, than in the former. Scrofula and rickets may be considered as predisposing causes, especially the latter. It still more frequently produces genu varum, in which case the external condyles of the femur and tibia are most affected and enlarged, while a similar swelling of the internal condyles gives rise to genu valgum.

Genu valgum may, as a general rule, be considered as a disease of a paralytic nature, and its most usual cause as a depressed state of innervation. Hence the commencement of the affection is limited to certain periods of life, in which the nervous centres undergo a more than ordinary degree of disturbance, connected with the state of development. Genu valgum is developed either during the first dentition or during puberty. This rule is so constant, that the only excep-

tions are the cases in which some local malady has given rise to the deformity: but these are comparatively very rare. In children, the disease has always, in the author's cases, arisen between the eighth month and the completion of the second year, and has always been preceded by difficult dentition, with fever, convulsions, violent hooping-cough, or, as in one case, acute exanthematic fever. This agrees with what has been stated by Heine, with regard to nine cases of knock-knee observed by him. The external causes, which may give rise to the affection at this age, and under the circumstances which have been mentioned, are, that the children *walk* too early, or too soon after a weakening illness, while they have not yet recovered strength, or that they are constantly carried on one arm, by which one knee is pressed inwards.

Among 221 cases of genu valgum, which the author has observed, 17 originated during the first dentition. In a few instances he has not been able to ascertain the period; but in almost all the rest, or about 200, the deformity commenced between the fifteenth and eighteenth years, or at the time of puberty. In all these cases there was an evident external cause for the deformity—the patient's position or occupation; but the limitation of the age referred to above, together with the fact that many following the same occupation, under apparently similar external circumstances, do not become deformed, seem to show that the external conditions are not sufficient to produce the disease, unless they meet with a corresponding disposition in the system of the individual, or rather in his development. We correctly consider the periods of dentition and of puberty as stages of development, in which the body is more obnoxious, than at any other period, to the hurtful operation of various extrinsic or intrinsic influences. That the deformity in question less frequently arises during dentition than during puberty, may be ascribed to the fact, that the influences above referred to, are more easily resisted by the system in the former than in the latter period.

This deformity is more frequent in smiths, joiners, bakers, and grocers. In 1846, there were in Copenhagen 644 smiths, among whom were:—

- 225 blacksmiths and anchorsmiths; of whom 42 had genu valgum in the right leg, 7 in both legs=19 per cent.
- 359 locksmiths; of whom 23 had genu valgum in the right leg, and 3 in both legs=7 per cent.
- 30 nailsmiths; of whom 17 had genu valgum in the right leg, and 5 in both legs=73 per cent.

There were thus, in all, 97 cases of the deformity among 644 smiths, making an average of 15 per cent.

The following are the immediate causes of the frequency of the deformity among smiths. Almost all smith's work necessitates the long maintenance of the same position, whether at the bellows, the anvil, or the vice; and, while standing in this position, they often have to use much force, which leads them to seek a firm and solid footing. The feet are hence removed from each other, either both sideways, or one—always the left—forwards. In both these positions, any powerful effort will tend to produce genu valgum; for a great part of the weight of the body will, under the powerful movements of the arm and upper part of the body, act on the knee like a pressure from above and below. In blowing bellows, a work in which apprentices are generally employed, they must often stand uninterruptedly at work for several hours. At the vice and anvil, the left foot is placed forwards, the right backwards and rotated outwards, so that the toes are turned to the side. In this position they often stand with the leg and foot unmoved for several hours, while the upper part of the body is subjected to constant and violent swinging, in order to use the file or hammer. The influence of the position on the knee will be easily seen by any one who will make a trial of it. Blacksmiths and anchorsmiths are besides constantly liable to have to bear heavy burdens. The fact that nailsmiths are most liable, in spite of their work being least laborious, is explained by the circumstance that they almost constantly use a kind of vice, which is fixed near the ground, and

against which they all, without exception, place the inner surfaces of both knees, "because it is impossible for them to work in any other way."

Of 1340 journeymen carpenters, about 60, or 5 per cent, had genu valgum. It has been impossible to make very accurate observations on this class, as they endeavour to conceal the deformity as well as they can. It does not reach in them so high a degree as in smiths. Notwithstanding that the work of carpenters is less laborious than that of smiths, considerable exertion is required: most of the labour of carpenters, as sawing, planing, and polishing, requires the same positions as are here described in speaking of smiths. The author has also observed that carpenters carefully watch for this deformity, and endeavour to prevent its development. Many masters have told him that they have had to set free their apprentices, or, in the first year, to caution them against habituating themselves to the posture which favours the commencement of the disease.

Of 334 journeymen bakers, 27 were knock-kneed; 24 were affected in both knees, the right being generally more bent than the left. One individual had the curvature only in the right knee. In 16, deformity had not reached a very high degree. Notwithstanding that bakers seem to be affected with this malady more than the other classes above named, and several of them have some difficulty in walking, the deformity is not strongly developed. The disease does not arise from the position in which they stand while kneading dough; for in the first years, when this malady is developed, the apprentices are not employed at this labour. But the deformity is produced by standing at night at the board, often half asleep or contending with sleep, seeking for rest in the most varied positions; or partly by carrying water or sacks of corn. It is possible also that the great changes of temperature in attending to the oven may have some influence; but the author considers the night watching as the most essential cause, for the constant struggling with sleep produces a relaxation of the muscles. All the bakers in whom he observed genu valgum, also had flat-foot; and the latter deformity, in several cases, had preceded that of the knees.

The generally received opinion, that grocers' apprentices should be liable to genu valgum, from standing long, or from shutting drawers with their knees, Prof. Bock has not found supported by facts: for, among 2000 individuals of this class, he has in vain sought for any examples of this deformity. It is said to have been more frequent formerly; and what has most surely contributed to its removal, is the reform in working hours, it having been formerly the custom to keep the shop open much later at night, and to open it earlier in the morning.

It hence results, that the general causes of this deformity are certain positions and habits, where these are often repeated, and especially at times when the body is more susceptible of their influence than at others. Other more accidental causes are, allowing children to walk too early, carrying heavy burdens, ulcers on the inner border of the foot, a burn on the outer side of the knee, resection of the upper end of the tibia, tuberculosis in the legs, caries, necrosis, rickets, syphilis, chronic abscesses, inodular bodies, &c.

The knee-joint is, properly speaking, a ginglymoid articulation, and its essential movements are merely flexion and extension; but the hinge-like movements are not so absolutely limited as in other analogous joints. The knee possesses a slight power of pronation and supination, but only when bent; and this power is dependent on the rotation of the tibia on its long axis, being limited, when the limb is extended, by the crucial ligaments. It is not connected with any peculiar apparatus, as in the rotatory movements of the radius and ulna, and may properly be considered as a slight twisting, which becomes possible on the tolerably flat upper surface of the tibia, when the knee is in such a position that rotation is not prevented by the extensor muscles. The knee has hence no power of abduction or adduction; and therefore the motions of this joint do not help to explain a deformity, which is characterized as an abduction of the tibia. Its immediate cause must be sought for in the parts which form, hold together, and strengthen the joint.

Although the part which these structures play in the production of this deformity is for the most part passive, the biceps femoris seems to be active in those positions in which genu valgum is chiefly produced, and to exercise the greatest influence on the increase, if not on the origin, of the deformity.

Supposing that one of the external influences which have been referred to should steadily act on the knee-joint, at a time when either convulsive disease (first dentition) or an unequally powerful development, perhaps in connexion with a rapid slender growth (puberty), have weakened the nervous system; then the parts on the inner side of the knee have no power of opposing the pressure outwards. They are overstretched and slackened; and thus the conditions arise for the commencement of genu valgum. The most important relaxation takes place in the internal lateral ligament, which is lengthened and thinned in its whole extent: in the more advanced stages, the four tendons on the inner side of the knee are also lengthened. On the other side of the knee, the tendon of the biceps, and both the external lateral ligaments, as well as the posterior, are strongly stretched.

When the deformity commences, the angle at which the biceps femoris acts constantly, becomes more and more favourable to its increase. This is, however, still more favoured by the circumstance, that the weight of the body, which in the normal state is uniformly diffused over the upper surface of the tibia, is now transferred to the upper surface of the outer condyle of that bone. The inner condyle of the tibia, and that of the femur to some extent, are atrophied, even in cases which are not of rachitic origin. This hypertrophy is greater, in proportion to the youth or small size of the patient at the time when the deformity commenced. In rachitic cases, it sometimes attains an enormous degree. It is probable, also, that the internal semilunar cartilage is somewhat atrophied.

*Prognosis.*—As genu valgum is a deformity which depends rather on relaxation than on any active contraction, the prognosis in general may be considered as scarcely favourable. It is, however, curable, when it comes under treatment in an early stage, and, which is more important, when the circumstances which have produced and kept it up can be removed. In young children the knee can be brought with the hand into its normal situation; and in these the prognosis is most frequently good, when the necessary continued watching of the growth can be maintained, and when the general condition of the child does not give a tendency to the continuance of the disorder, or to relapses. In young men, also, the deformity can be cured, when there are as yet no consecutive changes. But, under all circumstances, the removal of the deformity must not be looked on as complete; for, even when the curvature is completely removed, it will still be necessary to employ fitting means to insure the result desired.

*Treatment.*—The treatment of genu valgum in young children, consists in mechanical means to keep the knee outwards; and this must be always supported by such general treatment as the constitution of the child may indicate. The most simple apparatus is a splint, either straight or convex outwards, reaching from the hip-joint over the outer ankle, and fastened at the ends with circular bands. This apparatus, however, hinders the child from walking, and therefore can only be used constantly at night; hence it can only be used in the more unimportant cases. It is preferable to make use of a steel spring, convex outwards, furnished at the height of the knee with a hinge, fastened at the hip to a bow which can be stretched round the pelvis; just over the outer ankle, the lower end of the spring passes into another bow, which can be fastened round the tibia. The spring is furnished on the outside, through its whole length, with buttons, on which are fastened small leather straps, four or six in number. These are brought round the legs; and on the inner side of the knee they glide between flat *pelottes*, which exert a pressure from within outwards, when the straps are stretched or buttoned. An apparatus of this kind may be worn for a long time, and its action gradually increased. It must be used for at least a year after the deformity is removed, and even then it must be gradually ascertained whether it can be left off.

The same apparatus, on a larger scale, and with greater strength of spring, can be used in grown persons. The patient can easily accustom himself to use it—indeed, he feels comfortable with it. In grown persons it will generally be an indication, before employing mechanical treatment, to divide the tendon of the biceps, or of the most stretched fibres of the lateral ligaments, but generally only of the posterior lateral ligament. The mechanical treatment, after tenotomy, may appear tedious; but the result will be more perfect; but without

great perseverance on the part of the patient, and careful watching of the deformity for several years, the treatment of genu valgum will in general be ineffectual.

ART. 47.—*On Gouty Inflammation of the Structures of the Ear.*

By WM. HARVEY, Esq., M.R.C.S.

(*Prov. Med. and Surg. Journal*, May 28, 1851.)

Gouty inflammation of the ear, whether it attacks the external or internal part of the ear, always appertains to the uncertain class of suspicious diseases, for if the patient be really re-established in health, still he is never secure from relapses. The prognosis is most favourable when the inflammation is seated in the external part of the ear, when the individual is young and strong, and is in such a state that everything necessary for his cure can be applied. It is less favourable if the patient is very weak and sensitive, is advanced in years, or of a cachectic habit, and has been frequently exposed to attacks of gout; changes have then taken place in the meatus and membrana tympani, whereby the nutrition of these parts, as well as the function of hearing, becomes injured. The internal gouty inflammation of the ear yields an unfavourable prognosis, for in it such disturbances and total changes of the tissues and structures take place, are followed, if not by complete deafness, at least by an extreme degree of hardness of hearing.

In the treatment of gouty inflammation of the ear, the first care of the surgeon should be to see that the patient is withdrawn from the noxious influences which first occasioned the disease, and that the inflammation is checked. In order to attain this end, every action of cold damp air, and above all, of everything which might promote or add to the congestion of blood in the head and ears, must be avoided; on the contrary, living in a dry, temperate air, spare diet, food easy of digestion, and perfect rest of mind and body, are recommended. It is easy to see, that, in the commencement, the so-called anti-arthritis, which in general belong to the class of the exciting medicines, are not applicable, and that only an appropriate antiphlogistic mode of treatment is admissible. In this case one must be directed partly by the age and constitution of the patient, partly by the seat and degree of the inflammation, as well as by the violence of the accompanying fever. If the inflammation of the meatus be slight, no bloodletting is required, but if it present a violent character in all its phenomena, it should be reduced by local bloodletting,—by means of leeches placed around the ear. But if the inflammation has seized on the internal ear, and has attained considerable intensity, then, in case the patient is strong, plethoric, and not advanced in years, the practitioner may employ a proportionately copious venesection; he should, according to the violence of the local symptoms, place a greater or less number of leeches around the ear, and apply the cupping-glasses to the nape of the neck, to the shoulders, and the spine. In weak and elderly individuals, and where the inflammation is not violent, or is chronic, leeches or cupping-glasses suffice. Internally we should prescribe mild antiphlogistic aperients in such cases, so as to produce copious evacuations by stool, and a derivation from the head and ear as quickly as possible. After the inflammation has been moderated, it is very easy to remove it entirely from the ear. Together with careful attention to the bowels, remedies which moderately promote the cutaneous transpiration are subservient to this end; accordingly I have found the continued administration of guaiacum, combined with alkalies and colchicum, or ammonia, the most efficient remedies; at the same time we should not neglect repeatedly to employ cutaneous irritants, which derive powerfully, namely, acrid foot-baths, sinapisms, and blistering plasters to the nape of the neck, and to the shoulders. Should the inflammation of the ear be a consequence of a suddenly-suppressed action in any joint whatever, we should apply here a cutaneous irritant, which may act rapidly. In less urgent cases we may employ frictions of croton oil, or tartar-emetic ointment, over the region of the mastoid process, and on the nape of the neck, blisters to be kept open,

issues on the upper part of the arm, and setons in the neck. If by the internal treatment the inflammation is crushed, and one has now to do only with the after-consequences of the same, then we should direct our efforts against the gouty disposition, and seek to ward off relapses; we should, accordingly, in the first place, prescribe an appropriate dietetic line of conduct, recommend the use of food simple and easy of digestion, forbid strong beer, acid and heavy wines, liquors, and other such drinks, as well as all heating, flatulent, fat, salted, and highly-seasoned food. The patient should take sufficient bodily exercise, not tarry too long in bed, clothe himself sufficiently warm, in order to protect himself from catching cold, cover the head with a warm cap, and use friction carefully over his body. •

In order to remove the disturbance in digestion, the acid formation of mucus, obstruction, &c., those resolvent and bitter remedies so frequently celebrated in gout, will be found serviceable, as the infusions, decoctions, and extracts of taraxacum. Several aperient and diuretic mineral waters act very beneficially, more especially in the case of congestions in the head. To act on the lymphatic system and the excretions generally, sulphur will be found useful. With respect to the local treatment of arthritic inflammation of the ear, whether the external or the internal parts of the ear be affected, nothing further is to be done at first except to cover the ear and the entire side of the head affected, with warm dry cloths and the like. Every moist application is carefully to be avoided, as neither the lesser nor the greater degree of arthritic inflammation of the ear will admit of any such. In order to remove the morbid sensibility of the nerves of the ear, we may rub into the parts surrounding the ear, the fluid ointment mixed with opium or extract of belladonna, or allow a solution of one grain of morphia in half an ounce of olive oil to be dropped in. In case of abscess forming in the meatus, and suppuration in the cavity of the tympanum, much relief will be afforded by a free liberation of the integuments covering the mastoid process, and kept discharging by a sponge tent in the wound for some time after; soothing and anodyne vapour and poultices are to be employed. Should a purulent discharge have established itself, the meatus must be carefully dried and covered with a compress or the like. Obstinate ulcers in the meatus should be treated with the Tinctura Opii Camph., and even with the lapis infernalis. Should any affection of the mucous membrane set in, it is to be treated in the same way as in the case of the common catarrhal otitis. In order once more to awaken the sensibility of the ear, which has been changed by inflammation with respect to impressions coming from without, benefit will be derived from frictions with the volatile liniment, opodeldoc, oleum, cajeput, &c.

ART. 48.—*On Lesion of the Kidney.* By JOHN HENER, Esq.

(*Medical Gazette*, Aug. 8.)

[The author relates a case of injury from the passage of a cart-wheel over the abdomen, in which the symptoms during life pointed to rupture of the renal structure. He then introduces some general remarks. 1. On the way in which lesion of the kidney may prove fatal. 2. On the treatment of such accidents. On the first part he remarks:]

Death may be caused principally in two ways:—

1. By hemorrhage.

2. By suppuration or effusion of urine and their consequences.

1. By hemorrhage, which may take place either into the peritoneum or into the adipose and cellular tissue around the kidney. Death thus produced would be accompanied by the usual symptoms of internal hemorrhage. But more frequently the blood passes into the bladder, and is voided per urethram, which occurs when there is no laceration of the capsule, but when the rent extends to the pelvis of the organ. And when we get the evidence of any injury to the lumbar region soon followed by pain in that region and hæmaturia, we may safely conclude that that blood proceeds from the kidney. Whether, however, blood remains confined in the body, or obtains exit, death from hemorrhage may

ensue, either quickly, from great loss of blood, or more gradually, from the frequent hemorrhages, against which the system is unable to bear up; and, of the two, death more frequently results from secondary hemorrhage. An instance of this is published in the 24th volume of the 'Medical Gazette,' by Mr. Cæsar Hawkins, where death ensued from secondary hemorrhage ten days after the accident.

2. Death may ensue from effusion of urine and suppuration.

Should it so happen that the urine were extravasated into the peritoneum, the patient would most probably be destroyed by the peritonitis which would ensue, arising from the irritating effects of the effused urine. More frequently the peritoneum escapes, and the extravasated fluids reach no farther than the surrounding neighbourhood of the kidney. There inflammation sets up, which usually terminates in suppuration.

The patient whose case I have related lost his life by both methods I have mentioned. The frequent, and for a long time uncontrollable hemorrhages, brought him to a very low ebb, and no sooner was he to a certain extent recovered from their influence, than his already debilitated system was called upon to bear up against the lowering process of suppuration and extravasation of urine. Under their combined influences he succumbed.

I have not mentioned that suppuration of the organ itself may occur after some injury, and become the cause of death. This must, however, be a rare event.

I will now briefly notice the treatment to be adopted.

We may learn from this case that though hemorrhage may occur at the time of the accident, yet that the symptoms may nearly subside, and yet after a few days come on with greater vehemence. When, therefore, we are called to treat persons who have received injury to the loins accompanied by slight hæmaturia, though the symptoms may soon subside, we should remember that this is no sure criterion of the absence of important injury. We should therefore act upon the worst supposition, and cause the patient to remain quiet, and for some days rigidly to observe the horizontal position.

Cupping on the loins is often very serviceable, being succeeded by diminution of pain, and checking or obviating the tendency to hemorrhage. This will sometimes suffice, but often the hemorrhage is so serious in amount that its cessation becomes a matter of importance. For this purpose many drugs may be administered; such as acetate of lead and opium, tincture of sesquichloride of iron, matico, gallic acid, &c. The value and efficacy of these medicines are so well known, that it would be superfluous for me to do more than mention them.

There is one drug which I have omitted, which some practitioners are fond of administering in hemorrhage from the kidney. But when that hemorrhage is produced by laceration its exhibition is, I think, very questionable.

Dr. Pereira remarks: "after the absorption of the turpentine it operates on the general system as a stimulant, and excites the vascular system, especially of the abdominal and pelvic viscera;" and in speaking of its exhibition to arrest hemorrhages, he remarks, "it must only be employed in cases of a passive or atonic character."

It is true that in these cases the hemorrhage may be passive, but still the inflammation, or, to say the least, the congestion which the injury occasions, is likely to be increased by the stimulating properties of the turpentine. For there appears to be no reason why, in the case of the kidney, our treatment should differ from that employed in injuries to other organs; for if in one of them extensive laceration had taken place, and inflammation might be justly apprehended, we should endeavour to secure for that organ, as far as we could, perfect rest and immunity from the discharge of its ordinary functions; and so ought it to be with the kidney; instead of risking the use of the turpentine, which would only stimulate, and increase the excreting duties of the kidneys, we ought to endeavour to arrest the hemorrhage by some less objectionable drug. We should as far as possible relieve the kidneys of their ordinary occupations by acting vicariously on the skin. And I think in many diseases of the kidneys, especially in that form of inflammation and congestion which occurs after scarlet fever, that, if this principle were carried out, it would be far better than exposing the kidneys

to the stimulating properties of the long catalogue of diuretics which garnish our 'Pharmacopœia.'

ART. 49.—*On some effects of the Use of the Bougie in Stricture of the Urethra.*  
By DR. WILMOT.

(*Dublin Quarterly Journal*, Aug. 1851.)

[The unpleasant consequences which may arise from the use of the bougie, are chiefly these:—rigors, hemorrhages, false passage, irritable bladder, retention of urine, perineal abscess, and infiltration of urine. The author comments on these in succession. Of rigors, he says:]

There is no circumstance more annoying to the surgeon, than the frequent occurrence of rigors after the use of the bougie. . . . They are most frequently due to rudeness in management of the instruments; but no one who has treated stricture on a large scale, can be ignorant that rigors frequently follow the use of bougies or catheters where the greatest gentleness has been observed. Rigors in connexion with urinary disease are traceable to many different causes; they may be merely the accompaniments of stricture which has never been treated by the bougie, and closely resemble intermittent fever; they may be an indication of the formation of matter; or constitute a symptom of renal disease; or may result from the introduction of instruments. Rigors occurring from these causes require to be treated differently. When they are met with in connexion with stricture which has not been treated, we should not delay the use of instruments, and in general it will be found that as the stricture becomes absorbed, the rigors diminish in severity, and ultimately disappear altogether. We should be cautious, however, in introducing instruments in these cases, commencing with a small one, and increasing the size gradually. We should also prefer the gum elastic instruments. In conjunction, it will be prudent to administer pareira.

When the rigors actually depend on the introduction of instruments, various plans may be adopted, the most common of which is to administer opium immediately after the operation; should this fail he may try quinine. Frequently no preventive measures succeed, and we must then abandon the use of instruments altogether, as it is preferable to let the stricture advance, rather than that the constitution should be shattered by the effects of the surgical treatment.

[The author does not think the suggestion of Sir B. Brodie, to retain the instrument in the bladder, can be often followed without inconvenience. He also states particularly that a gum-elastic catheter will often not induce a rigor, when a metallic does so. He then proceeds to speak of hemorrhage:]

Another unpleasant result from the use of the bougie is hemorrhage. This seldom occurs to any great extent, except as a consequence of false passage, or laceration of the mucous membrane from rough usage; but a degree of bleeding, sufficient to excite uneasiness in the mind of the patient, often takes place without the least blame on the part of the surgeon. . . . There are no means by which bleeding can be altogether prevented, when the conditions now described (a soft vascular state of mucous membrane) are present, but the following expedients will diminish the chances of its occurrence. In the first place, it must be recollected that stricture is in general situated behind the bulb, at a part where the urethra takes a curve. A bougie, in its passage towards the bladder, impinges against this part, and if obstruction exists, the enlarged vessels are ruptured; on this account a gum-elastic catheter, number 4, softened by heat, will be the best. The other object is to render the urethra as straight as possible.

Irritable bladder is one of the commonest effects of the treatment of stricture by bougie, and is sometimes so severe as to demand the immediate relinquishment of the instrument. It should, however, be recollected that irritability of bladder may be the effect of the stricture, as well as of the use of instruments, and it is therefore necessary to ascertain if the irritability pre-existed, as in that case so far from the bougie being contra-indicated, we should steadily persevere in its use. When the irritability is accompanied by pain and scalding, there is no remedy so effectual as a combination of colchicum and hyoscyamus, as in the following formula:—Murray's Camphor Mixture seven and a half ounces, Bicar-



bonate of Soda a drachm, Colchicum Wine and Tincture of Hyoscyamus each two drachms.

[Retention of urine is next adverted to.]

This serious result arises in general from forcing the stricture, particularly with metallic instruments, inflicting some injury upon the mucous membrane of the canal; but some persons are so extremely prone to spasm from the introduction of an instrument, that retention of urine may readily occur without the least violence having been used. Now when retention arises from this cause, it is of course advisable to relieve it, if possible, without having recourse to the catheter, and it is perhaps the only case in which we need endeavour to do so; for the old doctrine, that in the retention of urine we should employ the catheter only as a last resource after all other means have failed, has been long since exploded. We shall usually find that an opiate administered per rectum, together with the use of a warm bath, will relieve the retention of urine arising from the cause now mentioned; should it, however, fail, we must employ mechanical means; but in general it will be sufficient merely to pass a bougie down to the stricture, and keep it pressed against it for about a minute, which procedure will relieve the spasm, and the urine will flow. If this method prove ineffectual, the only alternative is, of course, to pass a catheter into the bladder. Now when we are called upon to pass a catheter for the relief of retention of urine arising from stricture, no matter under what circumstances it may occur, we should not, as is often done, commence by using a metallic instrument, and endeavour to pass it by force through the obstruction: for, if we fail in effecting our purpose, we are certain to increase the spasm and thereby diminish the chance of further efforts succeeding, and, besides giving severe pain, we may cause bleeding, and injure the lining membrane of the urethra, if not produce a false passage. We ought to observe the very reverse of this censurable plan. We should select a gum-elastic instrument, whose size does not exceed that of No. 3 or 4, and making the patient stand in the erect posture, we should introduce it without a stilet. Unfortunately there is very commonly a fold at the neck of the bladder in strictures, particularly those of old standing, in which case we may be unable to pass the kind of instrument recommended fairly into the bladder, as that which, by its size, is best suited to pass through the stricture, is ill-designed to surmount the fold that lies behind it. However, it is not always necessary to introduce an instrument into the bladder to relieve retention of urine, for if we pass it through the obstruction, and carry it into the prostatic part of the urethra, we shall often be enabled to draw off, if not all the fluid, as much at least as will remove the present urgency. This plan is chiefly successful in cases where the urethra is dilated behind the stricture, and in fact it is, in most instances of the kind, the only means by which the bladder can be emptied, because, in consequence of the dilatation, the entrance into the bladder lies considerably above the level of the posterior part of the floor of the urethra, so that a small instrument which has passed through the stricture will hitch below the point of opening into the bladder. If we fail in relieving the retention by this means, we may then try a larger gum-elastic instrument with a stilet; and if we be foiled with it, we must try the metallic catheter, which, under particular circumstances, may succeed when the others have failed. If we commence with the small gum-elastic catheter in the manner suggested, though we may not succeed in some cases, we do no mischief, and we have the other means still at our command; whereas, if we have recourse in the first instance to the large metallic instrument, we are apt to inflict injury, and thereby remove all chance of relief to the suffering patient, save by one of those means of gaining access to the bladder, the simplest of which involves a serious operation.

[Passing over the author's remarks on abscess in perineo, we come to infiltration of urine.]

Infiltration of urine, which has an undoubted claim to be considered, the most serious consequence of the use of instruments for the cure of stricture, is, happily, the least frequent, and is, with very few exceptions, attributable to unjustifiable violence upon the part of the surgeon. The instrument acts only remotely in producing this serious result, either by leading to the formation of a true urinary abscess in the manner above described, or by exciting inflammation and ulcer-

ation behind the stricture, which are apt, under certain conditions, to terminate in rupture. The subject of infiltration or extravasation of urine is a wide one, involving much detail, and as there is nothing peculiar in that which follows the cause here noticed, to enter at length upon its consideration would be unnecessarily swelling the pages which contain the few foregoing observations.

The above remarks present but a brief account of some of the ill effects of the employment of the bougie for the cure of structure; and though we may naturally feel surprise that a plan of treatment apparently so simple should be capable of leading to results so grave, this very circumstance renders it the more incumbent upon us to endeavour to acquire the highest perfection in its manipulation; for while, no doubt, most, if not all, of the sad consequences now detailed, may sometimes occur from the employment of instruments in the most practised hands, directed by the most judicious skill, still they are not unfrequently attributable to carelessness, or want of proper manual dexterity in the surgeon.

**ART. 50.—On Permanent Involuntary Contraction of Muscles, with a simple Mode of Treatment.** By SAMUEL SMITH, Esq., F.R.C.S., Surgeon to the Leeds Dispensary.

(*Lancet*, Sept. 20, 1851.)

[The rationale of the lesion referred to, and its mode of treatment, first occurred to the author from experiencing it in his own person.

The first case reported is that of—]

Mary L—, a robust woman, who was admitted a patient of the infirmary, under Mr. Smith's care, on the 30th of July, 1820. She had been fifteen months under treatment, suffering much during the whole time from permanent involuntary contraction of the four powerful muscles forming the quadriceps extensor femoris, the whole of which were in an extremely rigid state. She walked without pain, but an inability to bend the right knee in the least gave her the appearance of walking with a wooden leg; and during the whole of this time she had been unable to kneel. The warm-bath, fomentations, frictions, and many other means, had been persevered in for a great length of time without producing the least effect upon her complaint. In reflecting upon this case, the author thought this state of the muscles had originally been produced from some such cause as his own case, and that it was now continued by the force of habit. He also thought, if he could succeed in completely relaxing these muscles, and keep them in that state a few hours, the balance of power between these muscles and their antagonists, the flexors might possibly be restored, and thus a cure effected. He proceeded to try this plan the following morning. He placed her upon the bed on her left side, and taking hold of the ankle with his right hand, grasping the thigh with his left, in the course of about ten minutes succeeded in drawing back the heel, and pressing it against the buttock, thus producing a perfect flexion of the limb. This was not accomplished without considerable management, for the muscles made many attempts to overpower his efforts; but by gentle friction, and perseverance, the object was at length gained. It was gratifying to perceive that the rigid muscles became now perfectly relaxed. In order to destroy the tendency to reaction, two leather straps with buckles were placed, while the limb was in this position, tight round the upper part of the thigh and ankle, thus fixing the limb in this position, with the heel touching the buttock. She remained bound in this manner, and lying upon her side until the following day, upwards of twenty-four hours. The success of this practice was perfect. On being released it was found the muscles, which had been for so long a period contracted, were quite relaxed; and not only so, but the tendency to involuntary contraction was entirely destroyed. She walked without limp, without pain, and with the perfect action of the hinge of the knee-joint during every step she took. Suspecting, however, it might return, she remained an in-patient ten days. No return of the complaint took place. She was made an out-patient, and appeared as such.

Oct. 4, 1846.—The author received a letter from the late Mr. Spink, requesting him to meet him in consultation, on a case at Tollstone, near Tadcaster. He

found Master S—, a fine boy of seven years of age, had been twelve days confined to bed and the sofa, in consequence of a blow he had received on the body from a playfellow at school. Considerable pain took place, he was put to bed, and the usual remedies applied. When seen he was lying on his left side with the knees drawn towards the abdomen, he was in much pain, had been twelve days quite unable to put his foot to the ground, or alter the position of the foot without acute pain; and it was suspected that there was some acute disease of the hip. After examination, finding some of the abdominal muscles and also those of the thigh in a painfully contracted state, the author rubbed them, and by gentle means, gradually brought down the thigh; he then gently pushed back the chest, and in five or ten minutes he ascertained that the painfully contracted muscles were relaxed and also at ease. He now took the patient in his arms, and placed him on the floor with the left leg foremost; ascertaining that in this position the muscles still remained relaxed, he left hold of him and confidently requested him to walk;—to the great surprise of his surgeon, and gratification of his father and mother, he walked well, and at ease, without limp or lameness. The cure was immediate and perfect, and no relapse took place.

[The author continues:]

Whatever muscles we find in this state, let it be our object to place their origin and insertion as far apart as possible; this secures a relaxed condition of them; maintain them in that state for some time, their opponents will then be gaining strength, and the balance of power will be restored. The author states that he has often seen the masseter in this state, and cures it by the gentle insertion of a wedge into the mouth. It is this state of the sterno-cleido mastoideus which forms wry-neck, and he has several times succeeded in effecting a cure in recent cases by turning the chin to the opposite side, and keeping it there a few days by mechanical means. The muscles about the shoulder-joint often get into this state after accidents, and render the arm of very little use for months, and sometimes for years. This state of the shoulder he has often cured by the same manœuvre formerly mentioned, placing the bend of the elbow on the crown of the head, with the fingers touching the ear on the opposite side, and keeping it in that position a few hours. The biceps sometimes remains for some weeks in this state after treatment for fracture of the forearm; the muscles of the fingers also, after injuries of the hand. The powerful extensor or flexor muscles of the thigh after long-continued, extended, or bent position of the limb in the treatment of fractures or other injuries, are left in this condition. The gastrocnemii and other muscles of the leg are often allowed to get into this state during the treatment of diseases or accidents of the foot or ankle, and often require more management and time to remedy it after the cure, than the original disease.

### SECT. III.—NATURE AND TREATMENT OF SURGICAL DISEASES.

ART. 51.—*On the Treatment of Stricture by External Incision.* By JAMES SYME, Esq., Professor of Surgery in the University of Edinburgh.

(*Edinburgh Monthly Journal*, June 1851.)

Strictures of the urethra may be divided into three classes. First, those in which there is no real organic contraction of the canal; second, those in which the contraction admits of dilatation, and may be prevented from returning by the use of bougies; and thirdly, those which either resist attempts to effect dilatation, or return so quickly after its completion as to prevent any permanent advantage from being derived by the patient.

The first class is very numerous, in consequence of the various and frequent circumstances which, independently of contraction, tend to impede the flow of urine. Hemorrhoidal affections, and fissure of the anus, enlargement of the

prostate, paralytic states of the bladder, disorder of the digestive organs, sexual excesses, and an irritable state of the urethra, with many other derangements of a functional and organic kind that might be mentioned, are apt to occasion, more or less, uneasiness in micturition, and excite the suspicion of stricture. The introduction of a full-sized bougie would of course correct any such erroneous impression, but, unfortunately, cannot always be accomplished, even though there is no obstruction, through want of practice in the use of instruments, and morbid sensibility on the part of the patient. Both he and the practitioner are thus apt to be confirmed in their mistake, and led to enter upon a course of treatment not only altogether unnecessary, but frequently very injurious. It is in these imaginary strictures that various means of remedy have acquired any credit they possess, such as, of course, all those employed externally, or through the medium of the system; and also many others of a local kind, which could not be mentioned on the present occasion without giving offence to their respective authors or advocates, and therefore may be passed over in silence, since they never can be of any practical utility to the patient. At the same time, Prof. Syme thinks it right to protest openly and distinctly against any evidence drawn from this spurious source, being admitted into the discussion of what may be done with most advantage for the treatment of real organic stricture.

The dilatable form of this disease may be remedied in many different ways, through the use of bougies and catheters, flexible or rigid, and introduced occasionally, or retained permanently during the period of treatment. While it cannot be denied that the object in view may be attained by any of these modes, there is as little doubt that they cannot be all equally beneficial, or free from inconvenience; and when they are compared together, with regard to their qualities in these respects, the author thinks there should be no hesitation in giving a decided preference to the metallic bougie, employed at intervals of from two to four days, and withdrawn each time immediately after being introduced. This method, which he complains has been characterized by one of the London writers as "*frivolous*," affords, in his opinion, the certain means of dilating any dilatable stricture in the course of a few weeks, not only more easily and safely than any of the other forms in which pressure is employed to widen contractions of the urethra, but also with a greater degree of lasting effect, since it appears that the more slowly the process of dilatation is accomplished, the less rapid is subsequent relapse.

The third sort of stricture fortunately bears a small proportion in frequency to the one last mentioned, but it does not do so to the same extent at all parts of the urethra. It is between two and three inches from the orifice, and just before the bulb, that organic contractions are chiefly met with. Tight strictures are much more frequent in the latter than the former of these situations, but when they do occur in the anterior part of the canal, are more apt to prove obstinate than those of the posterior position. Thus, of twelve tight strictures, the proportion may be about three in the anterior, and nine in the posterior situation, and in each of them *one* of the obstinate kind. Prof. Syme has in his possession a letter from the late Mr. John Pearson of London, to the late Dr. John Thomson of Edinburgh, which affords a remarkable illustration of this pathological fact in the following extract:—"London, September 26, 1804,—I have lately had under my care a case of impermeable stricture, about two inches from the meatus urinæ. Being foiled in every attempt to open it, I dissected down to it, cut through the contracted part, which was as hard as cartilage, and the wound is now very nearly healed. The patient makes water in a perfectly good stream. I yesterday saw a similar case, and intend to operate on it on Thursday."

In this obstinate form of stricture, there is not only contraction of the canal, but also a remarkable thickening of the part affected, which consequently is in general distinctly perceptible through the integuments, being felt like a ring of firm consistence, and flattened form. The bougie when introduced is firmly grasped, so as to be withdrawn with difficulty, and the patient, so far from experiencing relief afterwards, usually suffers an aggravation of his distress. It is difficult to account for these differences from the cases of ordinary occurrence, or to explain the origin of a disease so peculiar in its characters. The author has not been able to trace any connexion between the effect in question, and

the cause giving rise to it, or to distinguish any specialty of constitution favouring its production. But that there may be some predisposition depending upon the temperament, or other circumstances of individual limitation, would appear from the hereditary and collateral connexion occasionally observed between patients thus affected. A gentleman who was lately under his care for a stricture of twenty-four years' standing, told him that both his father and grandfather had died of the disease. And some time ago, he divided the stricture of a patient who was one of five brothers, three of whom had died of the disease; a fourth, who is now well, had been under his care; and this, the fifth, had run an extraordinary gauntlet of treatment, of which it may be sufficient to mention a year or two passed under the care of Mr. Guthrie, who employed a succession of catheters, and afterwards caustic; a prolonged residence at Gräffenberg, under the water cure; and a trial of Parisian homœopathy, which nearly proved fatal in a negative way, by disregarding an extravasation of urine that took place, all through the scrotum, and over the lower part of the abdomen, and but for the skilful care of M. Cloquet would doubtless have proved fatal. It is a fact of much practical importance that there is seldom, if ever, more than one contraction of the unyielding or resilient kind in the same urethra.

Having frequently had occasion to witness the distress resulting from this form of stricture, and to regret the insufficiency of any known means of remedy, the author had great pleasure in communicating to the profession a safe, easy, and effectual method of overcoming the difficulty, which consisted in dividing the contracted part of the canal upon a grooved director passed through it. The speedy and complete relief thus afforded, even in cases of the most protracted and aggravated suffering, is one of the most gratifying services that can be rendered by the art of surgery. The favourable anticipation originally entertained of it has been more than realized; and any patient who continues to suffer from obstinate stricture, can no longer attribute his wretched state to the imperfection of surgery. In the present and following papers Prof. Syme proposes to illustrate and confirm the statements which have hitherto been offered in favour of this treatment.

Prof. Syme has represented it as secure against the ordinary dangers which attend operations on the urinary organs,—namely, hemorrhage, inflammation, and infiltration of urine; and he now appeals to the evidence of forty-four cases which he had thus treated without encountering any of these effects, even in a single instance. It is quite true that through awkwardness, or defective acquaintance with the parts concerned, the artery of the bulb may be cut, and other errors of a serious nature be committed, so that he is not prepared to deny the allegation of this procedure being attended with danger in "inexperienced hands." But any man of ordinary skill, who chooses to follow the directions which he has given for conducting the process, will find little difficulty in accomplishing it. And here the author remarks, that his commentators who speak of "long incisions" in the perineum, and laying open the urethra to the extent of several inches, have no warrant for such statements in anything that he has said or written on the subject. He never opened the urethra beyond the extent of an inch, and seldom beyond that of half, or two-thirds of an inch.

The bleeding at the time of the operation hardly ever exceeds one or two teaspoonfuls; but occasionally takes place some hours afterwards to the amount of an ounce or two, being apparently proportioned to the hemorrhagic disposition of the patient, and therefore to be deemed rather salutary than otherwise. If any circumstance should render it desirable to prevent the chance of this discharge, a piece of lint put into the wound at the time of its infliction, will effectually do so.

As to the question of "impermeability," Prof. Syme simply maintains, that if the urine passes out, instruments may always, through care and perseverance, be got in beyond the contraction. It should be observed, that the case here is quite different from that of a distended bladder requiring *immediate* relief. He has never maintained that in such circumstances the introduction of a catheter was always practicable; and although, in the course of two-and-twenty years of hospital practice he had not happened to meet with a stricture that resisted this instrument; he neither professes security of being equally fortunate for the

future, nor teaches such confidence to others, especially if they are not to be daily practised in overcoming obstructions of the urethra. In his 'Principles of Surgery' it is said:—"If the surgeon possesses the requisite tact for introducing instruments into the bladder through the urethra, and has the treatment of the case from its commencement, he will very rarely, perhaps never, be under the necessity of resorting to this puncture. But should he not be able to draw off the water by the catheter, either from his own want of dexterity, or from the existence of obstacles arising from mismanagement or previous organic alteration of the passage, as stricture or enlargement of the prostate, complicated with a lacerated, softened, swelled, and bleeding state of the lining membrane, caused by forcible attempts to pass an instrument, there can be no hesitation in having recourse to the operation. Puncture of the bladder, however performed; is always attended with more or less danger of urinous infiltration; but a doubtful remedy is better than none; and there are few states of disease more hopeless than complete retention of urine, permitted to follow its own course." (p. 359.)

But if sufficient time and opportunity be afforded, Prof. Syme firmly believes, that every stricture may be rendered permeable. He feels deeply impressed with the importance of this principle, and, with the view of establishing it,—not, certainly, to obtain an advantage over his professional brethren,—he has again and again offered to undertake the treatment of any stricture, however impermeable it might be deemed, that was sent to the hospital. All those hitherto received have been afforded complete relief, either by simple dilatation, or by incision after being rendered permeable; and he ventures to hope that the results in future will be no less satisfactory.

With regard to the permanence of effect obtained through incision, in his early communications, the author could only express the expectations which seemed to have a reasonable foundation; but now, with the advantage of seven years' experience, he is able to speak more decidedly on the subject. It is well known that cuts, lacerations, and even slight bruises of the urethra from external violence, are almost sure to occasion stricture of the canal, unless a full-sized instrument be passed occasionally for a few weeks after the injury has been sustained; and he has, therefore, always considered attention to this circumstance essential for success. The first three cases of stricture at the bulb in which division was effected, after being treated in this way, seemed so completely divested of their contractile tendency, that he expected that it would never be necessary to use any precautionary measures by introducing bougies beyond the period just mentioned, immediately subsequent to the operation. In many patients this expectation has been fully realized, but in others it has been found necessary to introduce bougies for a longer time. How far these exceptions may depend upon some imperfection in the performance of the operation, the mode of healing in the wound, irritability of the system, or impropriety in the patient's mode of life, it is not very easy to determine at present, although more definite ideas may probably be acquired from more extended observation. In the meanwhile he feels warranted to state, that if the stricture be thoroughly divided, and a full-sized bougie be passed occasionally for a month or six weeks afterwards, the patient will certainly obtain complete relief from all the distress which attends the obstinate form of the disease, and require at most merely the precautionary treatment which is found sufficient to prevent the ordinary form of stricture from being troublesome. In illustration of what has been stated, the author commences a relation of facts, which are to be continued as long as they seem required.

[The cases alluded to are published in the consecutive numbers of the same journal. As far as they have as yet been detailed, they appear strictly to warrant the encomiums passed upon this operation, by the accomplished surgical professor of Edinburgh.]

ART. 52.—*Treatment after the Operation of Hernia.* By R. QUAIN, Esq.

(Medical Times, Aug. 9, 1851.)

[The following remarks are consecutive to the narration of some cases which formed the subject of a clinical lecture. In one obstinate case, vomiting was a troublesome symptom. Mr. Quain says:]

After the operation in our cases, reliance was placed on the application of leeches and some doses of opium at first. On the third day, enemata were administered. In the case of the patient who had continued vomiting, advantage was derived, after the use of leeches, from two or three pretty full doses of calomel followed up by enemata. In the management of patients in these circumstances, *i. e.*, after operation for strangulated hernia, sufficient time must be allowed for the recovery of the bowel before any remedy, calculated to excite intestinal action, is given; and the occurrence of peritoneal inflammation is to be constantly and carefully watched for. The necessity of the latter injunction will be understood, when I state, that I have not, during a series of years, seen this inflammation wanting in a single instance of *post-mortem* examination after the operation had been performed. During the first two days the patient must be seen every four or six hours, and a careful person ought to be in charge to report according to instructions given by the surgeon. Bear well in mind, that it is only at the outset that the peritoneal inflammation admits of a successful treatment. It is to be looked for and met as it arises. The best test of its approach is, I believe, the presence of tenderness over the abdomen. When there is any indication that inflammation is arising, leeches are to be applied, and the degree of tenderness taken in connexion with the strength of the patient, determines the number to be used. In aged or feeble persons, even a very small number will be of service; on the other hand, I have seen advantage derived from beginning, in vigorous persons, with the abstraction of blood from a vein and following this up with leeches, where the symptoms indicated further bleeding. This more extensive depletion is, however, seldom necessary in the hernia patients of the hospital.

Opium seems to have a beneficial effect during the first day after an operation. The dose at first is half a grain or a grain, and repeated in smaller quantity at intervals of eight or twelve hours. But in this, as in most other cases, the effect of the drug requires watching. A short time ago, after the operation for strangulated femoral hernia upon a patient of my friend Dr. Darling, I gave twenty drops of laudanum, divided into four parts, and the administration of these was spread over eight hours, with the effect of producing a considerable degree of narcotism, which, however, soon passed off. The patient was an aged and infirm female. Lastly, I may add, that I have not observed the very beneficial effects which have, within the last few years, been assigned to the use of opium in strangulated hernia.

I had been in the habit of combining calomel with the opium, but I discontinued the practice in a great measure, from the belief that griping pains and tenesmus, which I witnessed in some instances, were caused by that medicine. To any disturbance of the intestine in these cases, there is a special objection in the condition of the strangulated part. In only a single instance do I find it stated in the records of the cases I have operated on in the hospital during several years, that ptyalism followed the use of calomel. When severe peritonitis has come on, we have had recourse, in some instances, to mercury in another form, *viz.*, the mercurial ointment applied over the abdomen, and occasionally to inunction. This practice has, I must confess, been resorted to in compliance with the opinions transmitted to us from our predecessors—a tradition in the profession—rather than from any evidence I have personally had of the advantage of this treatment. When danger presses, one does not feel justified in omitting any remedy recommended by any reasonable authority, even though his own experience would lead him to consider it of doubtful value. A considerable time is allowed to elapse before any aperient medicine is given to our patients. We begin with an enema usually on the third day after operation.

ART. 53.—*Aphorisms on the treatment of Wounds and Injuries of the Abdomen.*

By G. J. GUTHRIE, Esq., F.R.S.

(Lancet, April 12, 1851.)

1. A blow on the wall of the abdomen, from any solid substance, causing a severe bruise, often, if not always, gives rise to the absorption of muscular fibre, and the subsequent formation of a ventral hernia. It is desirable, in all such injuries, to prevent or to subdue inflammation as soon as possible, in order to obviate the formation of matter between the layers of muscular fibres, which is a disagreeable, if not always a dangerous consequence. Severe blows or contusions from falls may rupture the hollow as well as the more solid or fixed viscera, causing death. A child just able to walk was placed under the author's care in the Westminster Hospital, having been tossed up into the air by its father with his right hand, and caught in its descent in the crutch formed by the thumb and fingers of the left, on the thumb of which it at last fell. The integuments seemed to be unhurt, the small intestine was ruptured and the child died. The author has seen all the viscera of the abdomen ruptured, at different times, from non-penetrating blows or wounds, the sufferers usually dying from hemorrhage.

2. When an *incised* wound is made through the wall of the abdomen, except perhaps in the linea alba, the parts, when vascular, are rarely found to unite in a permanent manner, so that a ventral hernia is the result. The knowledge of this fact, acquired during the war in Portugal and Spain, led Mr. Guthrie first to doubt the propriety of, and when confirmed by subsequent experience, to forbid the introduction of ligatures, through muscles for the purpose of keeping in apposition parts which could not ultimately cohere.

In all simple wounds of the abdomen, of even a moderate extent, the edges of the wound should be brought together by means of a small needle and silk thread, precisely in the manner a tailor would fine-draw a hole in a coat, or a lady a cut in a cambric pocket-handkerchief, sticking plasters over it, no bandage. The *position* of the patient should be of the gentlest inclination of the body towards the wound, the limbs being bent so that the parts may press against each other. *Absolute* rest is no less to be observed, and steadfastly continued. In the position the patient is placed in he should remain. When Mr. Guthrie became an examiner of the Royal College of Surgeons, the practice of the older surgeons he found there was to purge such patients *vigorously*, in the same manner as they purged persons who had undergone the operation for hernia; against both of which practices he protested until they were condemned and reprobated—improvements the surgery of civil life owes, among many others, to her elder but less fortunate sister, the Amazonian of warfare.

The custom of directing a man to be bled forthwith, as well as purged, because he had been stabbed, was another and not less esteemed error, with the author's older colleagues, which experience did not sanction, and which he could not approve. The abstraction of blood before reaction has begun, after the constitution has sustained a severe shock, delays it, as well as the commencement of the inflammatory stage necessary for the cure of the wound. The abstraction of blood is to be directed and regulated by the signs of reaction which have taken place, and by the augmenting intensity of the symptoms of inflammation which may follow. The quantity required is often large, although too much will do harm. Leeches are very beneficial, and the author has often applied from twenty to a hundred with the greatest advantage.

The *pulse* is by no means a guide to be relied upon, a small, low, and sometimes not even a hard pulse, being more strongly indicative of an overpowering state of inflammation than a quick and full pulse; and much more depends on the fixed pain, the anxiety, and the general oppression, than on the apparent state of the circulation. Long before general and local bleedings cease to be of advantage, calomel and opium will render most important services, particularly the latter.

3. Penetrating wounds of the abdomen are frequently followed by an immediate protrusion of some portion of the contents of the cavity. When the



omentum has protruded, it should be returned as gently as possible; the finger should not follow, to ascertain its position; it should be left free from strangulation within, but in contact with the cut edges of the peritonæum, to which it is desirable it should adhere, as they are not likely to unite one with the other. The external wound is then to be sewed up as the author has directed, and the stitches are *not* to be carried through all the intervening parts down to the peritonæum, as is directed by most, if not all, authors whose writings are of ancient and even of modern date.

4. When the opening through which the omentum and intestine, or both, have passed, seems too small to admit of their being returned, the latest writers on this subject recommend that a director should be introduced between the upper portion of the wound and the protruded part, upon which a blunt-ended bistoury is to be passed into the cavity as far as the enlargement of the wound seems to require, when they are to be withdrawn together;—*from all which the author dissents*. The difficulty does not usually lie with the opening in the peritonæum, but with that in the aponeurotic or tendinous expansions, and it is this part only should be divided. A small cut in the peritonæum is not dangerous; a larger one is, and should always, if possible, be avoided, for however indifferent a quarter of an inch, more or less, may be in a large wound, it is not so in a small one. The protruded parts should be gently cleansed with warm water, with which the fingers of the surgeon should be wetted, and then returned, the mesentery first, then the intestine, and the omentum last. At a later period, if the omentum be found protruded, adherent, inflamed, in a state of suppuration or gangrene, it should be left to itself, and treated in the most simple manner. A ligature should never be applied to it as whole, although it may be applied to a bleeding vessel of any part which has been cut, or which it may be necessary to remove. It should not, however, be spread out in these cases, and cut off, as is usually recommended, as it will gradually retract, and be withdrawn into the cavity of the abdomen, if the patient survive. An omentum wounded in the first instance, is in the best situation when placed just within and against the cut edges of the peritonæum; it is never in a better under any circumstances, except when it adheres to them.

5. When an intestine is protruded, it is to be treated in a similar manner, and the three great directions on this subject, of modern surgeons, are to be *avoided*: do not therefore cut the peritonæum, do not unnecessarily introduce your finger into the cavity of the abdomen, and be most careful to avoid, above all, the third direction, “that the patient is to be placed in such a posture, that the intestines should *least* press against the wound.” On the contrary: relax every part, keep the patient perfectly at rest, and if you can so manage, that the intestine shall be steadily applied against the cut peritonæum, without protruding between the edges, so as to be in the best possible situation for adhesion. The external wound should be accurately closed by the continuous suture, supported by adhesive plaster and a compress, and a proper bandage, if it can be methodically applied.

6. When the intestine is wounded, as well as protruded, the case is complicated; a mere puncture, or a very small cut, is not to be dreaded, the bowel should be cleaned and returned, and the excess of inflammation closely watched. When the wound in the bowel is larger, but is less than a third, or not more than a quarter of an inch in length, it is less apt than might be supposed to permit the extravasation of its contents in consequence of the villous coat protruding through the opening in the other tunics, the edges of which being in great part muscular, have separated from each other. This eversion of the lining membrane, so conspicuous in wounds, is not seen in ulcerations, the previous inflammation having solidified the parts. Whenever then an opening in a bowel is not filled up by the internal coat, the edges must be brought together by ligature. A ligature placed around an intestine of a dog, cuts its way through, into the cavity; and if the animal should survive some months, the part which had been injured will not be easily discovered.

When the wound in the intestine is small, and yet larger than it would be safe to leave to nature, a ligature should be applied firmly around the opening, which should be raised with a pair of forceps, so as to admit of its application.

When the wound is larger, the edges should be brought together by the continuous suture in a parallel line. A common needle carrying a fine well-waxed silk-thread, is to be introduced about half a line from the peritoneal edge of the opening, and brought out at the corresponding point on the opposite side, a knot on the end of the thread preventing its slipping. The first stitch should be a line from the end of the wound, and the last should terminate with a knot at a similar distance. The stitches should not be tightened when made, but left loose until all are inserted, when they may be drawn close, one after the other, the cut edges being turned in by a probe, so that the peritoneal surfaces may be in contact under the stitches, the divided edges being turned into the cavity of the bowel. It has been advised not to pass the needle through the mucous coat, but only through the strong areolar tissue connecting it with the transverse muscular coat. It is apprehended that if this could be accurately done, which may be doubted, the ligature might not ulcerate its way through to the cavity of the bowel. It is therefore better to pass the needle through all the coats, until further observations shall have been made on man on this point.

7. When an incised wound in the intestines is not supposed to exceed a puncture in size, or is less than a third of an inch in length, no interference should take place: for the nature and extent of the injury cannot always be ascertained, without the committal of a greater mischief than the injury itself. When the wound in the external part is made by an instrument not larger than one-third, or from that to half an inch in width, no attempt to probe, or to meddle with the wound, for the purpose of examining the intestine, should be permitted. When the external wound is made by a somewhat broader and longer instrument, it does not necessarily follow that the intestine should be wounded to an equal extent; and unless it protrudes, or the contents of the bowel be discharged through the wound, in the first instance, the surgeon will not be warranted in enlarging the wound, to see what mischief has been done. For, although it may be argued that a wound four or more inches long has been proved to be oftentimes as little dangerous as a wound of one inch in length, most people would prefer having the smaller wound, unless it could be believed, from calculation, that the intestine was also injured to a considerable extent. Few surgeons, even then, would like to enlarge the wound, to ascertain the fact, unless some considerable bleeding, or a discharge of fecal matter, pointed out the necessity for such operation; when there would be reason for believing that the patient would have a better chance of recovery after the application of a suture to the wounded artery, or bowel, than if it were left to Nature.

If the first two or three hours have passed away, and the pain, and the firm, not tympanic swelling in the belly, as well as discharge from the wound, indicate the commencement of effusion from the bowel, or an extravasation of blood, an enlargement of the opening alone can save the life of the patient, although the operation may probably be unsuccessful. It is not, however, on that account, to be always laid aside, when the state of the patient offers even a chance of success. The external wound should be enlarged, the effused matter sponged up with a soft, moist sponge, and the bowel or artery secured by a suture. When a penetrating wound, which may have injured the intestine, has been closed by suture, and does not do well, increasing symptoms of the inflammation of the abdominal cavity being accompanied by general tenderness of that part, and a decided swelling underneath the wound, indicating effusion beneath, and apparently confined to it, the best chance for life will be given by reopening the wound, and even augmenting it, if necessary, to such an extent, as will allow a ready evacuation of the contents of the bowel. It is a point in surgery which a surgeon should contemplate in all its bearings. The proceeding is simple, little dangerous, and, under such circumstances, can do no harm. Mr. Guthrie has seen instances in which it has been done, and others in which it might have been done, with some hope of its being beneficial; and he recommends it for the serious consideration of those who may hereafter have the management of such cases.

8. When the abdomen is penetrated, and considerable bleeding takes place, and continues, it becomes necessary to enlarge the opening, and look for the wounded vessel. If the hemorrhage should come from one of the mesenteric

arteries, or the epigastric, two ligatures are to be applied on the injured part. If it should be presumed that the enlargement of the wound and the search for the wounded vessel is not likely to be effected with advantage to the patient, the wound should be closed by suture, and a compress laid over it. If the bleeding should continue internally, and the wounded part become distended and tense, the sutures may be in part removed to give relief.

If the belly should become very painful, tense, and manifestly full after a punctured wound, and not tympanitic, the wound should be enlarged to allow the evacuation of the blood, which cannot, in such quantity, be absorbed. Extravasations of blood of a determinate quantity are not found to be diffused all over the surface, and between the convolutions of the small intestines, provided the person has outlived the period of extravasation, and may be readily evacuated, provided the wound be sufficiently open. It may, when confined without an external opening, be absorbed, but it is more likely to give rise to suppurative inflammation, and the formation of matter, requiring with it to be discharged by an opening made for the purpose. Cases of extravasation, terminating in this manner, are very rare in our northern climate, where inflammation usually runs high in the first instance. That they do sometimes occur should not be forgotten, and that surgery should not be wanting to give its aid.

For the proper treatment of gunshot wounds of the belly the author refers to his work on 'Injuries of the Abdomen,' where it is fully pointed out.

#### ART. 54.—*Treatment of Internal Hemorrhoids.*

Dr. I. P. Garvin has recently published a very interesting paper, in which he states that he has treated a considerable number of cases of internal hemorrhoids, some of them very severe and of long standing, by the use of cold water in the following manner:—He directs about a gill of cold water to be thrown into the rectum immediately before *every attempt* to evacuate the bowels, and that this enema be retained several minutes, if possible. This usually produces an evacuation of the fæces, which have been so far softened on their surface, as to permit their escape without the least straining or irritation. After every evacuation, it will be proper to use ablutions of the parts, more especially in such cases as are attended by some protrusion of the bowels. The treatment is to be continued until some days after all uneasiness is removed. In old or very severe cases, to effect such amendment generally requires several weeks. It is highly important to impress upon the patient the absolute necessity of perseverance in the use of cold water, even though he should be so far relieved as to feel *almost* well, for if it be suspended too soon, a very slight cause will bring on a relapse. So decided is the relief afforded by this treatment, that few persons would be disposed hastily to abandon it, but for the inconvenience of applying it daily. The ordinary apparatus for enemata are so unwieldy, that they cannot be carried about conveniently. All difficulty from this source may be obviated by the employment of a small pewter syringe with a ring handle to the piston. One which will hold two ounces is very convenient, and may be carried in the pocket when necessary. When such enemata of cold water fail to procure sufficient alvine evacuations, the quantity of fluid may be increased to half a pint, or it may be necessary to resort to mild laxatives. Active purgation must be carefully avoided. The patient should be advised never to aid the natural expulsive action of the bowels by straining.

*Southern Medical and Surgical Journal.*

#### ART. 55.—*Treatment of Internal Strangulation of the Intestines.*

By R. ROBINSON, M.R.C.S.

(*London Journal of Medicine*, July 1851.)

[The following observations occur in an elaborate paper on 'Hernia and Intestinal Obstruction,' which is analysed in our Reports on 'Medicine and Sur-

gery,' in the present volume under the *articles* "Internal Obstruction," and "Hernia," and to which we refer the reader:)]

In the treatment of internal strangulation of the bowels, the following indications present themselves. 1. To open the bowels. 2. To subdue inflammatory action. 3. To support the strength. 4. To remove the obstruction.

1. *To open the bowels.*—As constipation is one of the most constant, and earliest symptoms, to relieve the bowels is the earliest indication and thus may be attempted,—*a*, by purgatives; *b*, injections; *c*, the warm bath; *d*, nauseating remedies; *e*, bleeding.

*a. Purgatives.*—Great judgment is required in the selection of purgatives, as if they fail they do much mischief. Had I grounds for suspecting intestinal obstructions, I would give one full dose of Calomel to liquefy the motions, and follow it up by drachm doses of Sulphate of Magnesia. If this did not succeed, I would rub croton-oil on the abdomen, or try one drop internally. Failing with these I would give up purgatives altogether.

*b. Injections.*—Purgatives failing to procure action from the bowels, recourse is naturally had to injections, which should, in the first instance, consist of the compound extract of colocynth, dissolved in water; but when a tympanitic state of the bowels occurs, turpentine, or the tincture of assafoetida is to be preferred. So far, however, as my experience goes in these cases, injections avail but little; and I shall hereafter relate a case where seventy-two injections were administered without any apparent beneficial result.

*c. The Warm Bath* is a remedy which it would be very proper to use in the earlier stages; but, as the disease advances, the strength of the patient being much exhausted, would scarcely justify its trial. Fomentations, often useful, and always soothing, should be used in all cases, especially where there is pain.

*d. Nauseating remedies*, in a strong and robust individual, might deserve a trial. Of these, perhaps, the two best are tartarised antimony, and the tobacco injection; but I should not be very sanguine of obtaining success by their means.

*e. Bleeding* may be now and then resorted to in the earlier stages, in the robust and plethoric; but bleeding, carried to any great extent, I consider objectionable, for reasons to be stated hereafter.

2. *To remove inflammation* is a point to which particular attention should be directed; and, perhaps, there is but one thing of more consequence than this, for if it be allowed to go on unchecked, it may destroy the patient; and yet, if too vigorously attacked (by reference to the cases it will be seen that, in some, it was entirely absent, and, in almost all, limited, and by no means severe,) the patient may sink from other causes. I think, therefore, that general bleeding will seldom be called for on this account; the application of leeches, fomentations, and the administration of small doses of calomel and opium, will be all that is required for removing or controlling peritonitis brought about by this cause.

3. *To support the strength.*—I am very anxious to lay great stress upon this point, because I do not think it has been sufficiently attended to in practice; and I feel sure that patients have been largely bled, who would have had a better chance, had the vital fluid been less unceremoniously abstracted. If the bleeding be not sufficient to effect its object, either by opening the bowels by its depressing effect, or by removing the peritonitis by its antiphlogistic power, it must, if carried to a great extent, do infinite harm, as it will tend to depress the vital powers, already at a low ebb, and thus take away, I may say, every chance, either from the efforts of nature, or the resources of art. In the absence of fever, and where the stomach would allow of it, I would give, from time to time, barley-water and chicken broth in small quantities. Where there is great restlessness and want of sleep, and where I had failed in the use of purgatives, and determined no longer to administer them, I would certainly advise the administration of opium, as, by so doing, I should hope to tranquilize the nervous system; for nothing tends to exhaust the frame so much as long-continued nervous irritability; and cases are on record showing the good that has been done with it occasionally. If I employed opiates, I should prefer solid opium to every other form,—first, as being more likely to be retained by the stomach; and secondly, as possessing a stimulating as well as sedative property, which, I think, would, in these cases, be decidedly advantageous.

4. *To remove the obstruction* is one of the most important and difficult questions connected with this subject, and one upon which much difference of opinion exists. It is clear that this can only be done with certainty by means of an operation; and two cases have lately occurred, in which encouragement has been given to this plan. In one of the cases (Mr. Hilton's), the bowel was so far liberated, that the intestinal contents passed through the obstructed part. In neither of the cases, however, did the patient long survive. In considering this subject, four points are to be entertained: *A*, the likelihood of finding and removing the obstruction; *B*, the place of performing the operation; *C*, the time at which it should be undertaken; *D*, the chance of success that may attend the attempt.

*A. The likelihood of finding and removing the obstruction.*—Upon this point, there can be no doubt that there is great uncertainty; for although, in both the cases to which I have alluded, the obstruction *was* detected and removed, yet in one (Mr. Hilton's case) very considerable difficulty was experienced; and in case *xvi*, had an operation been undertaken, the incision would, in all probability, have been made to the *right* of the umbilicus, as a decided induration was evident there, and not elsewhere, and a pouch immediately above it. It was natural, therefore, to suppose that this was the point of obstruction; whereas, on dissection, this proved to be merely hardened *scybala*; and the fatal incarceration was situated in the upper and posterior part of the *left* side of the pelvis.

*B. The place of performing the operation.*—Mr. Phillips says: "There are some cases where the seat of obstruction is so clearly indicated, that *no doubt* remains. In such cases, I apprehend, the rule is evident,—the incision should be made as near as is prudent to that point. But supposing the point of obstruction to be only obscurely marked, or indeed not discoverable at all, then I consider the incision should be made on the median line, because an opening in that situation may be found most convenient for liberation, if that be practicable; or, for the establishment of an artificial anus, supposing liberation of the intestine be not accomplished." The case, however, to which I have just alluded, induces me to think the central incision, as recommended by Dr. Crisp, preferable in all cases where the obstruction is seated in the small intestines.

*C. The time at which an operation should be undertaken.*—It is very difficult to lay down any decided rule for this. Mr. Phillips says, that interference by surgical operation is justifiable when three or four days have passed without any relief from the bowels by ordinary means, providing constipation be complete, and *fecal vomiting* continue. I scarcely think we are justified in operating so soon; partly because persons have recovered from constipation of twenty-three days' continuance, and partly for reasons which will appear in the sequel.

*D. The chance of success* I regard as a very important consideration before undertaking any operation; and I cannot think that cases of internal intestinal obstruction, even under favourable circumstances, offer much chance of a successful issue from operation.

In the cases to which I have referred, it has been said, that, had an operation been performed earlier, a different result might have been obtained; and, no doubt, in both cases, delay was caused by the unwillingness of parties interested to give their consent. Can that be a matter of wonder, when it is recollected, that if an operation be undertaken, both the patient and surgeon must be prepared to go *all lengths*? The obstruction may *not* be at the part suspected; it may be *some way* from where the operation was commenced, and a *very large abdominal section* may be required to complete the operation; and it may possibly not be completed at all. How can this be undertaken without very considerable risk? How can such an operation be *proposed early*? And how can any better justification be urged for such a proceeding, than that long since advanced by Celsus: "*Satius est anceps remedium experiri quàm nullum!*"

If it be true, that great difficulty attends the finding of these obstructions, and great danger follows the attempt at removing them by the knife, so that we cannot conscientiously recommend it but as a forlorn hope, it is but reasonable to inquire, whether any other expedient can be resorted to for a similar purpose. And this naturally induces me to ask whether nature ever produces a cure, or

whether spontaneous relief is ever obtained? Several cases are on record, where persons with the symptoms I have described, and, to all appearance, sinking from internal obstruction, were suddenly relieved in the bowels, and gradually recovered. A case is alluded to by Mr. Cooper, where this happened. An elderly lady, residing at Norwich, was under the care of Mr. Colman, suffering from constipation of the bowels, having had no evacuation for four days. The usual purgative remedies were prescribed, but without effect; enemata and more drastic cathartics were tried, but still ineffectually; vomiting and immense distension of the abdomen supervened; the symptoms became more and more urgent, and on the twelfth day from her attack she had had no relief from her bowels. Dr. Alderson was then called in, and asked *what purgative* he would recommend; to which he replied—"None; but a large dose of opium." It was given, and in a few hours the bowels were freely opened, and the patient recovered.\* What was the precise condition of this lady must ever be open to doubt; but I venture to suggest, that this might have been a case where the bowel was strictured by false membrane, that inflammation and ulceration of this band ensued, and that then the gut was liberated; and I feel convinced that, had the patient lived a little longer, it would have entirely given way, and the patient might possibly have recovered. It is this conviction which makes me lay so great stress upon keeping up the strength of the patient; for as newly-formed parts are less organized than those formed originally, there is a hope, if the strength of the constitution be kept up, that the band may give way before the bowel, and the patient's life be saved. It is from this case that I particularly recommend the renewal of the old plan of metallic mercury; I think its use has not been rightly understood. That it will remove an intromission, or enable a portion of bowel to be drawn out of these bands, I agree with Mr. Hilton, is not at all likely to happen; but that it might in favourable cases (Mr. Hilton's was not one of that sort), by exciting a pressure upon the bowels, break through a false band, I verily believe; and I am more strengthened in this idea by the good that has occasionally followed its use. I have heard of a case, which I believe was of this kind, where metallic mercury appeared to remove a very obstinate constipation, and the patient recovered; and my friend Mr. Lawrence, of Brighton, has mentioned to me, and kindly allowed me to make public, the two following instances, which are cases in point. In one, a boy, *æt.* 10, was seized, without any apparent cause, with constipation of the bowels, but with no sign of inflammation. He was bled, leeches, took drastic purgatives, and had seventy-two clysters administered. On the twenty-first day of the disease, no motion having been procured, ʒiij of metallic mercury were swallowed; no effect following, the same quantity was repeated on the twenty-third day, after which he felt great weight and pain in the abdomen, and voided with much forcing, an immense quantity of *fecal matter*, and all the mercury, minus ʒss; almost fatal syncope followed, but the boy eventually recovered. The other was a case of similar kind, of shorter duration; it occurred in an elderly lady. All purgatives proving unavailing, two doses of metallic mercury, of ʒiv each were given; several motions (and all the mercury, minus ʒj) followed its exhibition after six hours, but the exhaustion and the depression occasioned were such as to destroy the patient. For these reasons, I think metallic mercury again worthy of a trial; it *can* do no great harm, and *may* do good. That it will often fail, I have not the least doubt, especially where the obstruction is low down, and has been so great as to ulcerate or destroy the coats of the bowel; but where, on the contrary, the band is thin, and high up in the canal, where the constriction is not so great as seriously to engorge or injure the part constricted, where the system does not sympathize much with the local malady, and where the powers of life remain vigorous, I am not without hope that it may occasionally succeed; and if *but one case* should occur in which, from what I have said, a trial of this remedy should again be made with success, I shall consider my observations not altogether out of place, and I hope I may with truth be permitted to say—"Est quiddam prodire tenus si non detur ultra."

\* Medical Gazette, vol. xlii, p. 608.

ART. 56.—*On the best mode of performing Amputation at the Hip-joint.*  
By Dr. VAN BUREN.

(*New York Journal of Medicine*, July 1851.)

[After relating a case of diseased femur in which amputation at the hip was ultimately required, the author expresses his opinion that rapidity of execution is absolutely necessary to success. He contrasts the modes as followed by Malgaigne, Larrey, Liston, and Fergusson, and being unsatisfied which was the best, he determined to experiment for himself on the dead body, as to the mode on which the thigh could be most rapidly disarticulated. The result he thus describes:]

The patient, already under the influence of chloroform, being placed on his back upon a table, with the buttocks projecting beyond its edge, the limb to be removed is committed to an assistant previously instructed as to its management,—the other limb to a second assistant, who carries it with the scrotum and penis as far as possible to the opposite side, and who also steadies the pelvis; the external iliac artery is then, at the word, forcibly compressed against the horizontal ramus of the pubes, by the principal assistant; and the surgeon, standing on the outer side of the limb, transfixes it with a straight narrow knife, ten inches long, entering its point about an inch above the great trochanter, grazing the head or neck of the femur, if possible, as it passes in front of it, and pushing it through the integuments near the anus, at a point diametrically opposite to its entrance, cuts out an anterior flap in the usual method, at least six inches in length. Meanwhile the principal assistant, passing one hand into the wound behind the knife, grasps the flap, and with it the artery before it has been divided, and as soon as the division is completed, with both hands carries the flap upwards as forcibly as possible. The surgeon then, slightly kneeling, carries the knife beneath the thigh to its inner side, as in a circular amputation, and placing its heel on the integuments, at the internal angle of the wound sweeps it firmly across through the tissues on the back part of the thigh, cutting with a slightly sawing motion down to the bone, and joining the two extremities of the first incision. The long knife is then immediately relinquished, and with a large straight scalpel, the femur being forcibly abducted, the capsule of the joint is laid open as near as possible to the acetabulum, the round ligament divided with the rotator muscles inserted into the trochanter, and the fossa at its base, the assistant managing the limb so as to keep these parts successively on the stretch, and the operation is completed.

A large compress or folded towel is then immediately applied to the surface of the posterior flap, by the assistant, who drops the amputated limb, and the arteries are secured in detail. The femoral and profunda, if well commanded, may be left until after the branches of the gluteal and ischiatic arteries have been secured in the posterior flap.

The arteries should be tied as rapidly as security will allow—the flaps brought together with as little delay as possible, and the patient removed to his bed, where, if his condition allow, he should be left entirely undisturbed to recover from the influence of the chloroform.

The author adds a few words with regard to what he believes to be the advantages of this mode of operating. It is nothing more than a modification of Liston's operation with antero-posterior flaps, in which the posterior flap is made by cutting from without inwards towards the bone, instead of in the opposite direction, the disarticulation of the thigh being left to the last.

The disarticulation of the head of the bone, and the detachment of the great trochanter from its numerous connexions, is confessedly the most difficult part of the operation ordinarily, and that most liable to cause delay. In the operation by lateral flaps, cutting around the great trochanter, whether, effected in making the first flap as by Lisfranc's method, or in the last, as by that of Larrey, is a clumsy process in the most skilful hands. The description of these operations read smoothly enough in the books, but they are far more difficult in execution.

Dr. Mott performed a modification of Larrey's operation by lateral flaps, pre-

viously tying the artery in the groin, a measure now generally considered unnecessary. The author has, in years past, repeatedly assisted him in performing this operation upon the subject, but with all his tact in such matters, the superiority of the method was not so striking as to induce him to follow it without further investigation, and he was exceedingly gratified to hear Dr. Mott express the opinion, that if he ever had occasion to repeat the operation, he should adopt the process which he has described.

One principal cause of the difficulty in disarticulation and in the detachment of the trochanter is, that it is generally attempted with the long hip-joint knife, an instrument admirably calculated for making the large flaps by transfixion, but the most awkward possible for cutting out the head of the bone, or around the trochanter. To relinquish the long knife, disjoin the bone, and detach the trochanter with a scalpel, and then resume it to complete the remaining flap, would be a more sensible, but necessarily a tedious plan. It would certainly be better to make the flaps with the long knife, and then to complete the operation with an appropriate instrument.

Both of these advantages are secured by the method described; and moreover, in it there is no necessity, as in the ordinary operation by antero-posterior flaps, of transfixing the thigh so very near to Poupart's ligament, for as the bone can be disarticulated with an appropriate instrument, and always with certainty and celerity, it is no longer required to expose the joint so extensively in the first incision—which is the only object gained by entering the point of the knife an inch below the anterior superior spine of the ilium.

In conclusion, the author states his belief, from repeated trials, that the operation described above could be invariably done in less than a minute even by an unpractised hand.

ART. 57.—*On Excision of the Pelvic Extremity of the Femur.*  
By R. KNOX, M.D.

(*Medical Times*, June 28.)

[The remarks of which we give an abstract, were called forth by a discussion at the London Medical Society on a paper read by Mr. Walton; in which discussion, opinions were advanced by leading surgeons which the author thinks erroneous. More particularly the extreme opinion that excision of the head of the femur is unjustifiable under nearly all circumstances, appeared to him most false, and to exhibit this, he gives cases collected by Mr. Walton, after which he proceeds with the following general remarks:—]

During the last twenty-five, or it may be thirty years, the attention of surgeons has been directed to the propriety of extracting, through an external excision made for this purpose, so much of the head and neck of the femur as seemed by its presence to maintain, by its carious or diseased state, incurable sinuses, purulent and exhausting discharges, and a condition of the joint irreparable by any other treatment.

In making this *seemingly* bold attempt for the speedy cure for a hitherto intractable disease, surgeons were, no doubt, quite aware, or at least ought to have known, that the caries affecting the femur was most usually a morbid affection, not confined to this bone, but was a disease affecting simultaneously, in many cases, the pelvic bones entering into the composition of the joint; that the os innominatum, in fact, was quite as liable to constitutional or scrofulous caries as the femur itself; that both are, unhappily, most frequently simultaneously affected, and that the removal of the femoral portion of the disease (the pelvic part being beyond the reach of excision at least, if not of any surgical treatment) by no means warranted the inference, that disease in the pelvic portion would, in all cases, be arrested, and a speedy and safe cure be effected. But practical men were also aware, that the simultaneity of femoral and pelvic caries was not uniform; that a period arrived, sooner or later, in the progress of the disease, when surgical measures seemed indicated; and that an improved operative surgery based on a more exact anatomy, and a sounder physiology, due



chiefly to Mr. Hunter, enabled modern surgeons to attempt and execute operations with success, which in former times were never thought of.

Whilst opinions were in this conflicting state, clearly from a deficiency of facts or materials which alone could decide important questions like these, it was natural for the operative surgeon to say, "in youth constitutional disease of the joints is frequent; such diseases, when left to themselves, but too often terminate in destruction of the limb, or death of the patient. But experience has shown, that when scrofulous caries attacks the extremities of the bones forming the elbow-joint, the removal of the diseased portions of these bones is a comparatively safe and effectual operation, leading to the most beneficial results." From the elbow-joint, on which so many successful operations have been performed, an application of these views was readily made to the ankle, wrist, and other joints, remote from the trunk. The knee-joint followed as a matter of course: lastly, the shoulder and hip-joint itself. That objections should be made to rash operations on these large and important joints was naturally to be expected and approved of by the cautious; but we shall find that the objections in the main lay against rash operations merely, and not against those undertaken for the preservation of life or limb.

As the chief object of this memoir is to consider the question of removal of a portion, larger or smaller, of the pelvic extremity of the femur in cases of scrofulous, or as it is sometimes called, constitutional caries, I shall first consider this point alone; in a shorter section I shall venture a few remarks on the excision of portions of the same extremity of the femur, in cases which, whether affecting merely the trochanters, or implicating the joint itself, cannot be so readily included under the same category. I allude, in a word, to caries of the trochanters, neck, and head of the bone, occurring in the adult, at a period when it is presumed the constitutional tendency to scrofulous disease may or must have ceased.

I pretend not to offer any opinion of my own in a dogmatic way; the truth is, that no facts or materials have been collected to enable any surgeon to do so, whatever may be his standing in the profession. "At what stage of the disease of the hip-joint may the operation of removing the head of the femur be performed?" By "head of the femur," I do not mean exclusively the part called the head. Scrofulous caries of the pelvic extremity of the femur is not confined to the head; the pathological condition in question extends, unhappily but too often to the neck and trochanters. Of the co-existing pelvic disease I shall speak presently. In hip-disease, then, it may be found necessary to remove by operation, not merely the head of the femur, but the adjoining portion of bone, the neck, in brief, and the trochanters.

The question I propose here for solution is more complex than will at first appear. It involves two others at least, which it is not my intention to discuss at any great length in this memoir. The first is, in what number of cases of hip-disease, whether the disease be the true morbus coxarius, the scrofulous caries of the bones forming the joint, or the more obscure affection attacking the adult, is pelvic and femoral caries simultaneous? Secondly, how is this simultaneity to be detected? And, thirdly (for this question also merits the deepest attention from the surgeon), does the co-existence of pelvic and femoral caries forbid all attempts at operation.

To answer all or some at least of these questions, regard must be had, first, to the local malady, and secondly, to the system at large. I shall endeavour in the course of the following observations, not to lose sight of any of these questions, although it is not my intention to discuss them systematically.

1st. Without pretending to establish any rigorous line of demarcation between caries attacking the adult bone and the constitutional form of disease, known by the name of morbus coxarius, it is nevertheless certain, that when caries attacks the adult it is usually an intractable and incurable disease otherwise than by surgical means, and these must be of a bold character. No constitutional treatment will answer, because we do not know in what the constitution is at fault. When this form of disease attacks the adult bone, it may and does persist and continue until death closes the scene, thus enabling the surgeon to ascertain, by *post-mortem* examination, that the diseased or carious portion of bone could be

covered with the extremity of the finger. The head of a trephine or a red-hot iron applied to the part during life would have saved the patient. That such an occurrence as this might happen even in scrofulous caries I do not doubt, although generally the caries is in such cases much more extensive.

[Cases illustrating this point are quoted from the Memoir of Mr. Walton, as well as from his own experience, after which the author returns to constitutional or scrofulous caries, of which he mentions eight cases of operation for excision. In the first the patient ultimately sank from double psoas abscess. In the second the operation prolonged life for two years. Two other cases were successful. The remainder were fatal, some from disease of other parts, one from secondary hemorrhage. In conclusion, the author observes:]

I have thus, to the best of my ability, brought before my professional brethren the history of excision of the head and neck of the femur for caries, arising from constitutional or other causes, in so far as it is known to me. I have shown the difficulty of diagnosis, the doubts occasionally involving what to the inexperienced may seem a simple question, namely, the certainty that the head of the femur has abandoned the acetabulum; I have traced some, at least, of the unsuccessful cases to causes over which the surgeon could have no control; and mooted, or brought prominently forward, certain pathological questions, which pathological inquiry has not yet answered. To all these points I beg to call the attention of practical surgeons; and this, in fact, was my chief object in submitting these observations to the public. To Mr. Fergusson is due the merit, by a series of operations unequalled for a judicious boldness, of proving, not merely the safety of such operations, but their comparative measure of success; he has opened up some important pathological questions, which pathologists had suffered to remain in abeyance for many years. These operations, it is true, are not "uniformly successful," nor always "easy of performance;" nevertheless, they belong to legitimate surgery, if I may so say; more extended pathological inquiries, by affording a surer diagnostic, will, no doubt, add still further to the safety of the operation. But they must not, and ought not, to be undertaken rashly, for this it is which has already brought the operation into disrepute.

ART. 58.—*On the Treatment of Dislocation of the Sternal End of the Clavicle.*

By JOHN MILTON, M.R.C.S.

(*London Medical Gazette*, Aug. 15, 1851.)

The author observes that the treatment of this accident has been, to a great extent, unsuccessful in the very best hands, and some of our first surgeons have expressed themselves very decidedly upon this point. Sir Astley Cooper, in his work on dislocation, candidly admits the great difficulty there is in obviating the deformity and weakness which arise from it; he always told his pupils "you are not to expect that the parts, after the utmost care in the treatment, will, in dislocation of either end of the clavicle, be very exactly adjusted; some projection, some slight deformity will remain; and it is necessary from the first moment of the treatment that this should be stated to the patient, as he may otherwise suspect that it has arisen from your ignorance or negligence. You may at the same time inform him that a very good use of the limb will be recovered, although some deviation from the natural form of the parts may remain, in a slight projection of the sternum, or some elevation of the sternal end of the clavicle."

Mr. Fergusson, after speaking of the usual means of treatment, says, "these means, however, combined with keeping the arm steady in a sling, will, in all likelihood, not have the desired effect; and moreover the pain which the injury occasions is not so great as to induce the patient to submit to the irksomeness of a continued application of such an apparatus."

Mr. Liston, in his 'Practical Surgery,' says, "difficulty of preserving the parts in their natural situation will always be experienced, and the cure will be slow and imperfect;" and again, in his 'Elements of Surgery,' "but, after the utmost care and patience, there still remains, in almost every case, some projection

more than before the accident. The ligaments are slow in uniting, and the union is *imperfect and weak*."

Dr. Knox, in his 'Edinburgh Dissector,' tells us, "the cure is seldom or never complete, a slight projection of the clavicle always remaining even in the most experienced hands."

Mr. Skey says, "to retain it (the clavicle) in contact with the articulating surface of the acromion is always a difficulty. This end, however, will be attained by a firm compress on the articulation, full extension of the shoulder by means of a compress placed in the axilla, and elevation of the entire arm, which should be fixed at the side in a sling."

"In from four to six weeks," says Chelius, "the bandage may be removed; most commonly there remains greater or less displacement, which, however, does not interfere with the motions of the shoulder:" and his commentator, Mr. South, says, "the dislocation of the collar-bone upon the spine of the blade-bone is one of the most tiresome accidents we have to do with, at least in all the cases I have had to deal with, and the injury is not unfrequent, I have never been able by any contrivance to keep it in its place, and have therefore given up attempting to keep it reduced, and only endeavour to keep it at rest, so that it may form new connexions on the scapular spine."

The author notices that there seem to be only two grades of this luxation; one in which the acromion and clavicle are separated from each other, and one in which, in addition, the coraco-clavicular ligaments are torn, especially the conoid. Here there is much more displacement of the clavicle.

When its attachments are thus loosened and torn asunder, the clavicle rises, a fact which appears to the author to be deserving of the greatest attention, and which he thinks the anatomical connexions of this bone forbid us to ascribe to anything but muscular contraction, for if forced down, and then released from pressure, it again rises. The voluntary muscles, when healthy, seem always to be at some degree of extension, for as soon as one of their fixed attachments is loosened, or brought nearer to the other by displacement of a limb or bone, they immediately contract, and remain so long after any stimulus has ceased to be applied. We see this, he observes, very plainly in many fractures and dislocations, and the muscles of organic life seem to act in much the same way: they are *distended only* by forces foreign to their organization; *their only power is to contract*.

[Referring to the muscles which act on the clavicle, the author has the following remarks:]

"The clavicle gives attachment by the superior surface of its sternal extremity to the sterno-cleido-mastoid; the longitudinal depression on its inferior surface to the subclavius; the anterior border by its sternal half to the pectoralis major; by its acromial third to the deltoid; the posterior border by its acromial third to the trapezius.

"At first view it would appear that when left to the unimpeded action of the muscles, the clavicle must necessarily be drawn down and not up, for while it can only be drawn up by the trapezius and sterno-mastoid, and perhaps through the medium of the cervical fascia by the platysma myoides, it is acted upon below by the subclavius, deltoid, and pectoralis major. Its rising, therefore, seems only explicable on the supposition that the contracting power of the portions of these large muscles attached to the clavicle is weakened by the overstretching they are so violently subjected to. The force which tears through the strong coraco-clavicular ligaments may well tell on muscles.

"Were the humerus alone depressed, it would not be a very difficult matter to keep the bones in contact, but the contrary is seen in practice, for no skill has as yet proved successful; whereas if the clavicle be forced down towards the humerus, and the latter at the same time elevated, no such insurmountable difficulty is experienced."

ART. 59.—*Unconsolidated Fracture of the Thigh successfully treated by Acupuncture.*  
By M. LENOIR.

(*Bulletin Générale de Thérapeutique.*)

The rationale of the various plans of treatment which have been adopted, in order to prevent the formation of false joints, consists in the establishment of an inflammatory action in the fibrous tissue situated between the bony fragments, and the consequent secretion of a secondary callus. One of the methods proposed has, in the hands of its inventor, M. Malgaigne, been unattended with success: we mean acupuncture. But the following cases communicated to the Société de Chirurgie by M. Lenoir, proves that this mode of treatment deserves some notice, even although it has not afforded similar results to M. Maisonneuve. Much of the success obtained by M. Lenoir must, doubtless, be attributed to the many precautions observed by him.

Dupéché, a carpenter, æt. 33 years, in falling from a height of fifty-two feet, fractured his right thigh. He was immediately conveyed to La Pitié, and placed under the care of M. A. Bérard. After fifty-four days of treatment the patient began to walk with the assistance of crutches, when M. A. Bérard, in order to remove a stiffness which existed in the knee-joint, endeavoured by force to extend the motions of this articulation; in one of these manœuvres the neck of the femur gave way, and the signs of fracture reappeared. The broken bone was again reduced, and an immovable apparatus applied to keep the fractured ends *in situ*; at the termination of a month the apparatus was removed, but the fracture had not consolidated, and the patient had himself conveyed home.

Six months afterwards M. Lenoir took him into hospital, for the purpose of employing the treatment by acupuncture; but before trying this plan he used all the means likely to insure success, and, amongst others, he had him placed on a mechanical bed, so as to maintain complete freedom from motion, even in attending the calls of nature. As the fracture was oblique and the upper fragment very sharply bevelled, and the fragments, by overlapping, occasioned a shortening of about two and a half inches, M. Lenoir had an apparatus for maintaining extension, constructed by a carpenter, a friend of the patient. This apparatus consisted of a sort of long box, nearly in the shape of the limb, and consequently wider above than below, but longer than it; it was about three inches deep, and was composed of three pieces of light wood closely united to one another; of these three splints the external was eight inches longer than the others, which terminated at the junction of the thigh with the trunk; this longer portion had at its upper end a mortise intended to facilitate the employment of counter-extension; to the lower end of this groove a kind of toothed wheel and axle was adapted, to which was applied a catch for the purpose of fixing it. This apparatus, lined with carded cotton, received the limb, the foot being covered with a gaiter of ticken furnished with a foot-strap; by means of this strap rolled round the wheel, extension was made, while counter-extension was maintained by another strap, well padded, passing along the fold of the groin, having the ischium as its *point d'appui*, and its ends fixed in the mortise in the outer splint of wood.

For several days nothing was done except to tighten the straps according as they became relaxed. At last, on the 12th of August, seven months and some days after the accident, M. Lenoir proceeded to insert the needles. At first he introduced four, each being four inches long, and furnished with a head. Their points were directed along the inner surface of the upper fragment, from below upwards; an interval of but half an inch being left between each needle. Contrary to his expectation, and although he passed them in as far as the heads, he met no obstacle to their introduction. This, doubtless, depended on the existence of an interval between the two fragments, the extension effected by the apparatus having reduced the fracture only in the direction of the length of the limb, and not transversely. The four needles remained *in situ* for six days; at first they excited redness of the skin, then a little pus appeared about them, and rendered them movable; and finally, a slight swelling and pain in the limb occurred.

These symptoms indicating that inflammation had developed itself, M. Lenoir withdrew the four needles; and, after having cleaned them, he reintroduced them higher up, following carefully the direction of the upper fragment, and leaving between them the same intervals as before. The same symptoms followed this second operations; at the end of five days the needles had become moveable, and were taken away; and the inflammatory action now appearing to be sufficient to produce union, the introduction of the needles was not repeated. The inflammatory swelling of the limb was treated by poultices, antiphlogistic diet, and cooling drinks; and when it was subdued, the two surfaces of the fragments were brought into closer proximity by means of small splints placed around the thigh, and tightened by two straps of leather, a practice previously employed by Amesbury. The apparatus was inspected daily, and tightened when necessary. At the end of twenty-three days, in order to ascertain how far consolidation had advanced, the limb was completely uncovered; it was found to have neither got out of shape nor undergone retraction; but when the hand was passed over the seat of the fracture, it still yielded; splints were immediately reapplied, the limb was replaced in its groove, and extension continued. No fresh examination was made until the expiration of thirty-five days from this time, and then the callus was found to be sufficiently solid to justify the removal of the entire apparatus. Carefully measured, the limb was now found to be rather less than eight-tenths of an inch shorter than that of the opposite side; the knee-joint was stiff, but the patella was still capable of some transverse motion; the thigh and the upper part of the leg were œdematous, but otherwise there was no apparent deformity at the seat of the fracture, and the callus was not very bulky. Lastly, the coxo-femoral articulation was capable of motion, and the patient was able to raise the limb by the unaided action of the muscles. As an additional security he was advised to keep his bed for a fortnight, after which he walked with the aid of a stick.

*ART. 60.—Excision of the Astragalus, Successfully Performed, for Fracture and Dislocation of that bone.*

[Although the history of fracture with dislocation of the astragalus, requiring the extraction of the bone, has been succinctly written, there are comparatively but few cases on record, so that the following instance by M. Thore ('*Archiv. G n rales*,' Mai,) is not without value:]

A young man working in a stone quarry had his right foot crushed by a fall of stones and earth. When first visited the foot and leg were enormously swollen, so that it was difficult to ascertain the nature of the injury. The foot was, therefore, enveloped in poultices. Five days subsequently a gangrenous odour was perceptible, and bull  appeared filled with fetid sanies. At the external aspect of the foot the skin was sloughing, and a portion of the astragalus projected, and was movable in all directions.

Two days after the author decided to extract the bone. After enlarging the wound, the bone was seized in strong forceps, and the ligamentous structures being divided it was readily extracted, leaving a large and deep excavation.

The report five days after the operation is, that the appearance of the limb is much improved, the gangrene diminishing, and cicatrization commencing in certain portions of the wound. Several splinters were extracted, and phlegmonous erysipelas ensued, requiring several incisions for the purpose of evacuating pus; but on the subsidence of this the patient made rapid progress.

An examination of the limb was made at the expiration of the year, when the following were the appearances:—Above and immediately behind the external malleolus there was a deep semicircular cicatrix. There was no trace of callus either on the tibia or fibula. The external malleolus is more prominent than the other. The concavity of the sole of the foot was little changed. The foot, which was for a long time movable in every direction, was at this time quite ankylosed. The patient could walk and even dance without pain and with facility.

*Prov. Med. and Surg. Journal, July 23.*

ART. 61.—*Removal of the Os Calcis for Necrosis.—Cure.**(Medical Times, July 19, 1851.)*

William Clifton, æt. 10, was admitted into Abraham ward, under Mr. Simon's care, on the 18th of April, 1851, with severe disease of the foot, accompanied by impairment of the general health. His mother stated that, until four months back, the foot was perfectly healthy; that then, without any known cause, it became swollen, hot, red, and very painful; that it was treated with leeches and poultices, purgatives being occasionally given, and that, at first, it improved. A month after the commencement of the disease openings formed, from which there flowed a profuse discharge of pus. The foot continued much the same up to the time of admission, the pain and swelling having undergone no diminution.

On his admission the hinder half of the foot was swollen to, at least, double its bulk, and was of a bright red colour. The swelling extended as high as a line just above the malleoli, but (as it covered these processes) was too uniform to be owing to effusion into the ankle-joint. There were several orifices at different parts of the swollen integuments, from all of which sinuses ran towards the os calcis; and this bone could be felt with the probe exposed to a considerable extent. He had exquisite pain when the foot was moved, or even touched. His health was much affected; he had lost flesh considerably; he was without appetite, had impaired rest, and was feverish and irritable. Warm-water dressing was applied. On the 20th of April an incision was made over the dorsum of the foot where fluctuation was felt; from this a good deal of serum, mingled with blood, and a small quantity of pus escaped; it was found to communicate with the old sinuses. By this incision much relief was given to the tension of the superficial parts, and the inflammation of the foot rapidly subsided in a great degree.

Mr. Simon then, on making a very careful examination, found that the os calcis was the only bone exposed; that all the sinuses led in the direction of that bone, and that the tenderness was chiefly confined to its coverings. Over the inner side of the foot the skin was healthy, and here pressure could be made without causing pain. Mr. Simon, who, when the boy was first admitted, had feared that at least the whole foot must eventually be amputated, now came to the conclusion, that the calcaneum was the only bone diseased; that this disease was, in all probability, necrosis, and not caries; and that the neighbouring articulation, with the astragalus, and cuboid bone, were in a healthy condition. He therefore determined to remove only this bone, thinking, from the accounts of the few cases which have been operated on in this manner, that the foot, thus preserved, would prove a more useful member than the stump left after amputation beneath the astragalus, or at the ankle joint; and knowing from experience, that the diseased skin, riddled with sinuses as it then was, would quickly recover itself and heal after the removal of the dead bone. He intended, however, if during the operation he should find the cuboid diseased, to amputate the foot beneath the astragalus; and if this bone also were unhealthy, to amputate at the ankle-joint. On the 28th, Mr. Simon performed the operation. He made a longitudinal incision in the axis of the bone, beginning just above the heel, and extending to the centre of the sole; and from the end of this incision a second one, extending at right-angles directly outwards, passing round the outer margin of the foot to its dorsum; the two cuts together forming the outline of a rectangular flap. By turning up this flap, he immediately exposed the whole outer surface of the calcaneum, and its articulations with the adjoining bones. It was readily turned out from its place, the whole of it being necrosed, with the exception of that part which enters into articulation with the cuboid, and which was sound to a small depth from the joint. The tendo-Achillis had been separated from the bone with its periosteum, and was firmly adherent to the surrounding tissues.

The articulating surfaces of the cuboid and the astragalus were perfectly healthy. Some little new bone had been thrown out, this it was thought advisable to remove where loosened by the eversion of the flap. The wound was

lightly brought together, united in part by sutures and strapping, and water-dressing was applied. Only a single arterial ligature was required; the posterior tibial trunk, as well as the plantar branches, and the corresponding nerves having been carefully avoided. The limb was placed on an internal splint, and secured by a roller. Chloroform had been given throughout the operation, anæsthesia having been very readily and completely induced. The boy got well without a bad symptom. A great part of the wound healed by the first intention, and the single ligature which had been applied came away in a few days. The cavity left by the removal of the bone at first served to collect the pus which escaped imperfectly through one of the old sinuses, but after a time the wound, which had united, gave way at one point, and from this opening the matter escaped freely, so, that, by judicious employment of compresses, the cavity was obliterated, the discharge ceased, and all the sinuses healed, the skin resuming in a very short time its ordinary healthy appearance. On the 30th May, six weeks from the date of his admission, he was discharged cured; having been about the ward on his crutches for some time previously, and being able to press his foot firmly to the ground without pain. The absence of the heel bone was not so apparent as might have been expected.

We have selected the foregoing case for publication because it affords a very good example, showing how far that saving surgery may be carried, which teaches us to prefer excision of single bones of the tarsus when diseased, to the sacrifice of the whole foot, or to that still greater mutilation of the body, amputation below the knee.

The only objection to this plan of treatment is the difficulty of diagnosing the exact extent of the disease previous to operation. But that this difficulty may be overcome by a careful and accurate examination has been fully proved, and in these days, when, by the aid of chloroform, the surgeon's knife has been deprived of many of its terrors, and, consequently, the celerity of an operation has become of secondary importance, the surgeon may, at the time, make certain of the extent of the mischief, and use his knife just so far as may be necessary for the removal of the whole disease.

But very few (some four or five) instances of the removal of the *os calcis* have been recorded. The results of these, which must be regarded on the whole as very satisfactory, are mentioned in the 'Medico-Chirurgical Transactions,' vol. xxxiii, in a paper on the subject by Mr. Page, wherein he relates also more fully a case of his own, in which he performed this operation with a very satisfactory result, "the boy," he states, "being able to walk, run, and jump with very little impediment, and the foot, for all the uses of a foot, being as serviceable to him as the other."

The method of operation pursued in the present instance, viz., the raising of an outside flap, and the separation of the calcaneum from the astragalus from within outwards, must be considered preferable to that followed by Mr. Rose—the raising of a posterior flap, and separation of the bones from behind forwards—seeing that the plantar nerves and vessels are preserved in the former, while in the latter they are necessarily cut through.

The diagnosis of the extent of the disease was, in the present instance, rendered more easy and certain by the knowledge of its nature; for necrosis, unlike caries, is generally confined to a single bone. The same fact also rendered the prognosis more favourable.

We may conclude, then, from the result of this, and other similar cases, that excision of the calcaneum is, in many instances, preferable to amputation of the foot, inasmuch as the motion at the ankle-joint being preserved, and the tendo-Achillis becoming firmly united with the surrounding soft tissues, and thus allowing the gastrocnemius still to act as a powerful extensor of the foot, locomotion is much more easily and perfectly performed.

ART. 62.—*Ununited Fracture, treated after Dieffenbach's plan.*  
By R. STANLEY Esq., F.R.S.

(*Lancet*, Oct. 11, 1851.)

[Various measures are recommended for the encouragement of the secretion of bony matter in cases which show an indisposition to solid union, among which may be mentioned, mercury, friction of the divided ends, seton, and lastly, the impaction of some foreign body which shall excite inflammation. The principle of all, with the exception of the first, is the same. The latter method was recommended and practised with great success by Dieffenbach. It consists in driving ivory pegs into the fragments of the bone, the irritation caused by their presence inducing the throwing out of callus. Dieffenbach was led to adopt this method from observing that a bullet lodged in bone occasioned copious ossific deposit. Mr. Stanley's case is as follows:—]

Abraham B—, aged 24, a healthy-looking countryman, employed in the construction of railroads, and not addicted to excessive drinking, was knocked down by a horse two years before his admission. By this accident he suffered a compound fracture of both bones of the right leg, towards the lower third, and the violence was so great that the upper fragment was forced through his Wellington boot. The patient was placed under surgical care at Slough, and the reduction was effected with much trouble, a whole hour of strenuous efforts having been necessary for accomplishing it. The limb was put up in splints for two months, and in Simpson's patent apparatus for four months, but no union took place, though the wound had readily healed.

The patient now left the hospital to recruit his health in the country; he contrived to do light work in Devonshire, with pseudarthrosis of the leg; and succeeded in lessening the inconvenience of this state of things by making for himself an apparatus composed of iron hoops and a connecting rod. Thus he went on for eighteen months, and was finally advised to apply to Mr. Stanley, under whose care he was admitted, Oct. 7, 1850, two years having elapsed since the time of the accident.

On examination, the fractured portion of the limb allowed of extensive motion, a false joint had been formed, and the patient stated that he felt a grating at every step he took. Mr. Stanley first tried blisters for a month, then splints and various other contrivances (among which was a casing formed of gum and chalk) for keeping the fragments in apposition; but these were of no avail, and union did not take place. The patient now returned into the country, and after a short stay, during which his general health improved, he was readmitted.

On Feb. 16th, 1851, Mr. Stanley decided upon driving ivory pegs into the extremities of the fragments, according to Dieffenbach's method. The patient was placed under the influence of chloroform, and a flap of integument over the fracture having been reflected, Mr. Stanley bored four holes with an instrument of the class of drills made for the purpose, two on the upper and two on the lower fragment. Into these holes four ivory pegs were inserted, or rather hammered, with nearly a quarter of an inch of the peg remaining over the surface of the bone. The flap of integument was then replaced, and the patient's leg put into a fracture-box.

Inflammation ran tolerably high, suppuration was soon established, without constitutional disturbance, and the pain was very trifling. Three days after the operation a small abscess formed on the upper part of the flap; Mr. Stanley opened it, and a fortnight afterwards something was seen projecting from the wound, and when pulled out, it proved to be one of the pegs. The flap now cicatrised, and two months after the operation Mr. Stanley proceeded to remove the remaining pegs, the soft parts having been laid open for the purpose. It was found on examination that the portion of the pegs which had been above the bone was quite unattacked, whereas the part which had been imbedded in the osseous structure had nearly disappeared. (See the annexed engraving.)

Mr. Teale, of Leeds (who has performed the same operation successfully)



has remarked analogous phenomena respecting the unaltered state of the upper part of the pegs, and the almost complete absorption of the part situated within



the bone, the whole peg having pretty well the same appearance as the milk tooth of a child with the fangs nearly absorbed.

On May 13th, three months after the introduction of the pegs, the patient had a sharp attack of erysipelas of the leg; this was arrested by the usual remedies, and a circle of nitrate of silver on the upper part of the limb. The fracture was now found to be approaching consolidation; but Mr. Stanley desired the patient not to use his leg for some weeks, and when the latter began to try the limb, about four months after the operation, the fracture was found perfectly united, firm, and immovable. He continued in the hospital, carefully walking on crutches, for another month, and was discharged in the latter end of July, 1851, with a sound leg, about five months after the operation.

Dieffenbach's method has also been applied by Mr. Bowman, at King's College Hospital, in a case of a very interesting kind. We shall have much pleasure in acquainting our readers with the results as soon as they are of a decided nature.

Before dismissing the subject, we would just mention that acupuncture in cases of ununited fracture has here and there been very successful; and as this measure is not so severe as the pegs, we shall quote, from the second volume of the *Mémoires de la Société de Chirurgie de Paris*, (1851,) a paper by M. Lenoir, of a case of ununited fracture of the femur, in a man thirty-three years of age.

The patient had been fifty-three days under treatment at La Pitié, and the callus had then been satisfactorily thrown out; but the surgeon, M. Bérard (1845), desirous of overcoming the stiffness of the knee-joint after the man was already getting up, subjected it to passive motion, and in one of these manœuvres the callus gave way, and henceforth refused to form again.

M. Lenoir saw the patient four months after the accident. He first resorted to rubbing the fragments, starch bandage, and continuous extension; these means yielded no result after two months' treatment. The author had then recourse to acupuncture, discarding resection of the fragments, the ligature with a metallic thread, and the seton, as too hazardous. The limb was placed in a box, where extension could easily be made. Seven months after the original accident, four needles, four inches in length, were thrust along the internal surface of the superior fragment, and were left six days. Some inflammation was then excited; the needles were withdrawn, put in again a little higher up, and left five days. After this the fragments were approximated, and kept closely connected by little splints placed round the limb, and secured with straps. Extension was made very gently at first, and the surgeon visited his patient *every day* to regulate both the extension and the pressure by the splints.

After twenty-three days some firmness was noticed between the fragments, and in thirty-five days consolidation had taken place. Edema of the thigh and leg were combated by the proper means for a fortnight; and after careful trials with the crutches, &c., the patient walked out, about six months after the implantation of the needles, with less than an inch shortening.

M. Lenoir justly says: "Wherever the seton is indicated, acupuncture can be substituted with advantage; for the latter acts like the seton, but more gradually, and may be more easily regulated and controlled." Whenever the extremities of the fragments are in a diseased condition, or separated by a splinter, muscle, or a fibrous cord, resection is of course called for. It is strange that M. Lenoir does not make any mention of Dieffenbach's method in the paper of which we have just offered an abstract.

ART. 63.—*Treatment of Chordee.* By JOHN MILTON, M.R.C.S.

(Medical Times, July 19, 1851.)

[Mr. Milton, after trying various antispasmodics, has come to the conclusion that none is equal to camphor, in decided doses. Speaking of the Spiritus Camphoræ, he says:]

A teaspoonful is to be taken at night in water, before going to bed, and *every time the patient awakes with the chordee, let him at once rise and repeat the dose.* In the milder cases, one dose for a night or two is generally enough. In the more severe ones the symptom is generally removed at the end of the second night; becoming, in the meantime, milder and less frequent after each dose. So long as the clap remains bad, I frequently recommend the patient to take a teaspoonful at night, before going to bed, which suspends the chordee till the cure is completed. This plan of treatment also answers well in the bearing-down pains to which women are sometimes subject in clap; but as here, contrary to what it is in men, these pains are generally worst in the daytime, it is best to use the essence of camphor largely in the medicine they may happen to be taking. It must, however, be taken in full doses. A violent sudden pain like that of chordee requires an equally powerful remedy, and there is no use in trifling with it. A less quantity than a teaspoonful will not always suffice to abate the pain at once, though it may materially alleviate it; just as a moderate dose of chloroform will lull the acute pain of an operation without rendering the patient insensible to what is going on, while a smaller quantity, in one full dose, produces complete torpor. Now, as a teaspoonful or two may be safely taken, it is best to insure success at once. In one or two cases it has produced some sickness, and strangely enough, this has been more the case with small doses than with large ones; this was probably caused by something having been previously taken that had in some measure disordered the stomach. At any rate the instances have been too few to make the affair of any moment. I only allude to it here that no one might, by its appearance, be discouraged from giving so valuable a remedy as camphor really is. It is best taken in water, as, if dropped on sugar it produces a strong sensation of heat in the mouth.

ART. 64.—*A new plan of Reducing Paraphymosis.* By M. MERCIER.

In spite of the many proceedings occasionally adopted for the reduction of paraphymosis, the operation is at all times painful to the patient, and disagreeable to the surgeon; M. Mercier, therefore, thinks he is doing the profession a service in promulgating the following plan:—In all operations for paraphymosis, the great obstacle to reduction arises from the fact, that the manipulations, while they compress the glans in one direction, expand it laterally, so that there is equally an obstacle for the contracted and infiltrated prepuce to overcome. Although the infiltration is greater on the inferior aspect of the penis than elsewhere, it is not there that the difficulty lies, but above, on the upper aspect, where the corona glandis rises perpendicularly. M. Mercier's idea is to render the reduction of the prepuce more easy by converting this perpendicular elevation into an inclined plane, in the following manner:—He stands on the right of the patient, placing the index and middle finger lengthwise under the penis and the thumb above, thus making pressure, and, at the same time, forcing his thumb-nail beneath the constriction. With the left hand he then makes a circular pressure over the tumefied prepuce and the fingers below it, at the same time drawing the constricting band further on to the thumb-nail, and causing the glans to glide backwards over the pulp of the thumb. The reduction is thus effected.

Provincial Journal, May 28, 1851.

ART. 65.—*On the Relief of Impassable Stricture of the Rectum by Artificial Openings.*  
By J. B. CURLING, F.R.S.

(*Observations on Diseases of the Rectum*, 1851, p. 106.)

[In obstructions of the rectum, an artificial opening for the passage of fæces may be made into the colon in the left groin, by the operation commonly called Littre's, or in the left lumbar region, by the operation known as Callisen's, modified by Amussat.]

"A careful consideration of the advantages and disadvantages of the two operations, leads me to give the preference to the former. I do not ground this conclusion upon the tables of Amussat and Vidal, because I do not attach much value to them. The cases of Littre's operation are not only limited in number, but in several of them the colon was not opened in the left groin, the division of the peritoneum being the only circumstance in common. Nor do the tables afford information of the period of constipation, or of the extent to which the viscera were disturbed in the operation. Callisen's operation is not only difficult of execution, but the wound is necessarily of large size, especially in stout people. But it is not so much for these reasons that I am indisposed to adopt it, as in consequence of the operation leaving the patient exposed, afterwards, to risks and annoyances, which are in a great measure avoided when the colon is opened in the groin. Thus I find, in the published account of several of these cases, that the artificial anus in the loin had a strong disposition to contract, so as to interfere with the passage of the fæces, and that repeated dilatation was necessary to secure the patency of the opening. It is also extremely difficult to adjust any apparatus, to prevent the continued escape of flatus and fæces; and as the orifice is without the observation of the patient, he becomes dependent on the assistance of others. These serious inconveniences, if experienced at all, are much less so when the aperture is in the groin. The patient can attend to the part himself. The aperture does not show the same disposition to contract, and it admits of being closed by a well-adapted truss. These advantages, so important to the comfort of the patient, are by no means counter-balanced by any increased risk in opening the peritoneum. The operation is easily performed, and as no exploratory attempt is necessary to relieve the obstruction, a very small opening in the peritoneum is sufficient for the object in view. Even Callisen's operation is not entirely free from risk of peritonitis from disturbance of parts; and the magnitude of the incision probably renders the danger to life, from its performance, quite as great as that resulting from the operation in the left iliac region, carefully performed.

"The abdomen may be opened in the left iliac region by a perpendicular incision about three inches in extent, commencing two inches above Poupart's ligament, and an inch external to the epigastric artery. The fibres of the abdominal muscles being cut across, will help to keep the wound open. The peritoneum being divided, the distended colon will immediately protrude at the wound. A curved needle, armed with a silk ligature, being passed through its coats above and below to prevent its receding when emptied, the bowel may be opened for the space of an inch between the retaining ligatures."

---

SECT. IV.—NEW SURGICAL APPLIANCES.

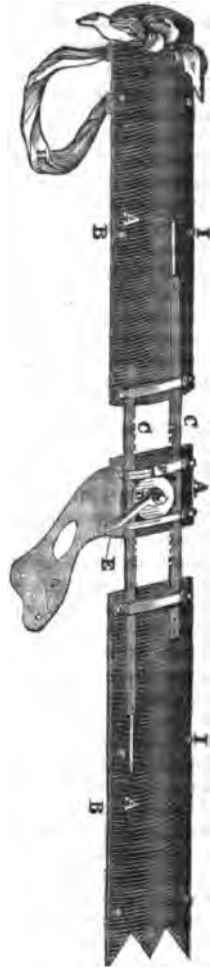
ART. 66.—*New Splint.* By Dr. MULLAR.

(*Medical Times*, July 19, 1851.)

Dr. Mullar observes that a frequent cause of shortened or distorted limbs after fracture, is the difficulty of fixing the splint to the extended limb, and afterwards retaining it in situ. The disadvantage of the ordinary splint is, that if any of the bandages have become loose, either from the subsidence of the tumefaction

consequent on injuries of this nature, or from any other cause, it almost always becomes necessary that the whole apparatus requires to be readjusted, and the limb to be extended as at the commencement of the treatment, thereby retarding the process of cure. To obviate this as much as possible, he succeeded in producing the splint, a sketch and description of which is annexed.

The splint is made of hard wood, 4 feet in length,  $3\frac{1}{2}$  inches broad, and  $\frac{3}{8}$ ths of an inch thick; it is covered externally with very thin sheet iron, to give a proper support to the toothed wheels and rods, which are attached to it. When unscrewed, it is perfectly portable, and of light weight; it is divided into three parts, *A A A*, the centre short, and the two end pieces long; the notched piece being for the foot, and that with the round holes for the hip, through which is passed the perineal band *H*; on the centre piece is fixed the toothed wheel, covered by the shield *D*, which at the same time binds down the two toothed rods *CC*, thereby keeping them in close contact with the wheel by which they are moved, either to lengthen or shorten the splint. *E*, the lever handle by which the wheel is moved; *F*, a small check for fixing the wheel when the required extension has been obtained; *G*, an elastic belt for supporting the knee; the rods are fixed each with its opposite extremity upon one of the long pieces of the splint, while the other end is allowed to slide in the groove (as shown by a white line at the opposite end of each rod); *IIII* are small buttons for supporting the pad.



**ART. 67.—On a New Apparatus for Fractured Clavicle.**

By HENRY LEE, Esq., F.R.C.S. Eng., Assistant-Surgeon to King's College Hospital; and Surgeon to the Lock Hospital.

(*London Journal of Medicine*, Sept. 1851.)

The principal use of the clavicle in man is to keep the shoulder at the requisite distance from the body, and by affording it an unyielding support, to enable the muscles to move it, and to maintain it in position. When the clavicle is broken, the shoulder falls in, being drawn by the action of the muscles into contact with the ribs. It also falls, in obedience to the laws of gravitation, according to the position of the body. In the erect position, therefore, the shoulder will be found lower than natural, as well as to have lost something of its lateral prominence.

Different methods have been proposed for the treatment of this fracture. The most common method is the figure-of-eight bandage applied about the shoulders. This keeps the two scapulæ on the back of the chest, and prevents their anterior edges from falling forwards. Some degree of extension is made in this way, but still it rarely happens that the fractured extremities can by this means be brought into apposition; and one reason of this is, no doubt, that it affords no provision against the shoulder falling by its natural weight.

A second plan of treatment, which may, with certain modifications, be combined with the former, is that of M. Desault. This consists of a cushion, in the shape of a wedge, placed in the axilla, with the broad part upward. The thin point is prolonged so as to reach as low as the short ribs. This cushion is retained

in its place by a bandage, and the arm is bound down upon it. The upper part of the cushion thus acts as a fulcrum, the part of the humerus below it as a lever, and the shoulders are by this means drawn asunder. An artificial clavicle is thus formed, while the natural one is being repaired. This apparatus is, however, very difficult to apply, and demands that the patient should be kept at rest afterwards. In a few days, even with the greatest care, the bandage will require to be readjusted, and this necessarily involves a disturbance of the fractured extremities. But the chief objection to this apparatus lies, perhaps, in the circumstance of the cushion resting upon the movable ribs. As the extending power is always the same, and depends upon the elbow being fixed by an unyielding bandage, it follows, that any motion which is allowed at the point of support, or at the fulcrum, must necessarily be communicated to the free extremity of the lever: and, consequently, in the case before us, would tell upon the fractured portion of the clavicle.

A third plan, which has recently been adopted for fracture of the clavicle, is that which was suggested by Mr. Ellis. It consists in the adaptation of a firm cushion, in the shape of the top of a crutch, to the axilla of the affected side. This rests upon a vertical plate, which reaches nearly as low down as the crest of the ilium. The apparatus is supported and retained in its position by a band extending over the opposite shoulder. Extension is then made by using the arm as a lever, as in Desault's method of treatment; but, as in that, the cushion which forms the fulcrum is constantly liable to move with the motions of the ribs.

Messrs. Philip and Whicker, of 67 St. James's Street, have, at the author's request, constructed an apparatus, by means of which lateral extension can be made in cases of fractured clavicle from a fixed point. It consists of a backboard, retained in its position by two broad straps crossing over the shoulders, and by a perpendicular plate reaching to the loins, and connected with a band round the waist; a firm cushion is adapted to each axilla, and extends to the front of the shoulder-joint. To the anterior extremities of these, the straps which go over the shoulders are buckled. Each cushion is directly connected with the backboard by means of a steel bar, slightly concave forward, and capable of being extended laterally and fixed in position by means of a screw. When applied, the two cushions are separated to a convenient distance and fitted to the axillæ. The straps are drawn moderately tight over the shoulders, and the elbow of the affected side is connected with the body by means of a handkerchief or bandage. It is advisable also to support the arm in a sling; and this may be conveniently done by passing a broad band from the elbow in front and behind the arm to the opposite shoulder, below which the cushion in the axilla affords a fixed point for its attachment.

The principal advantage of this apparatus consists in its different parts being so connected and adjusted as not to move with the motions of the ribs; for as these are raised, in all their ordinary actions, simultaneously on both sides, any influence which they possess must be exercised equally in different directions; and as corresponding parts of the apparatus are placed upon the two sides of the chest, any tendency to displacement is exactly met and counteracted by a similar tendency from the opposite side. The result is, that although the cushions rest upon the ribs, they yet do not move with the ribs, but afford firm, and comparatively fixed points of support.

A second advantage of this apparatus consists in its not requiring to be readjusted; should the bandage round the body, or the sling which supports the arm become loose, they may be tightened without in any way disturbing the position of the instrument, or the fracture.

A third point of some importance is, that the arm on the opposite side to the fracture is not confined, and the patient may in ordinary cases, be allowed to walk about as soon as the instrument is properly adjusted.

In severe fractures of the clavicle, and in such as are complicated with injury to the ribs, it may become desirable to remove all pressure from the side of the chest.\* This may readily be accomplished by increasing the distance between

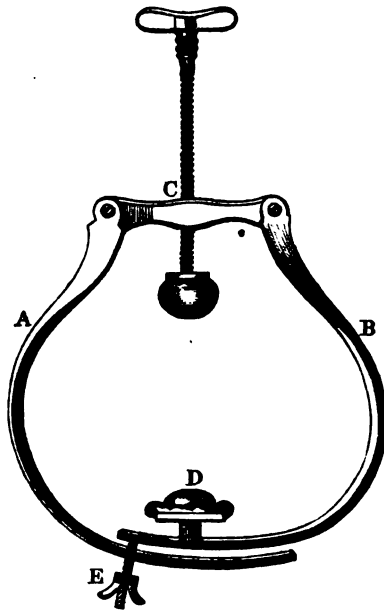
\* It was reported in the case of the late Sir Robert Peel, that he was quite unable to bear the pressure of the ordinary clavicle bandage upon the chest.

the two cushions, and connecting *both* the arms with the body. Any amount of lateral extension may in this way be made without any pressure upon the ribs, and even without interfering in any degree with their actions.

ART. 68.—*Improved Circular Tourniquet.* By F. BULLEY, Esq.

(*Medical Times*, May 3, 1851.)

The apparatus, which is figured below, is composed of two semicircular clips or branches, which are made to open out by means of hinge joints at the ends of the horizontal bar c. Through the centre of this horizontal bar passes a long screw, with a square-cut worm; the end of which is made to revolve in the plate of the compressed pad, which latter thus remains stationary, while the screw is working. Near the extremity of the clip A, is a slit in the metal, in which slides the short screw observed in the drawing, which enables the instrument to be enlarged or diminished, according to the size of the limb on which it is to be applied.

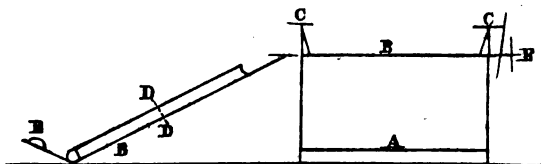


The pad D, which also, by means of its stem, moves in a slit in the opposite clip B (to allow of its being placed opposite the compressing pad, under all the circumstances of the diminution or enlargement of the circle) revolves on the short stem on which it is placed, and is raised a little distance from the clip to which it is attached, for the purpose of preventing pressure of any part of the instrument upon the superficial veins.

ART. 69.—*The Sling Fracture-Bed.* By T. M. GREENHOW, F.R.C.S., Senior Surgeon to the Newcastle-on-Tyne Infirmary.

Dr. Greenhow having placed in the Great Exhibition a specimen of the Sling Fracture-Bed, which he has employed for many years with great comfort, as he believes, to his patients, he requests the attention of the profession to the advantages which it affords in the treatment of fractures of the femur, especially in

the upper third, wherein these advantages are most conspicuous because most needed; and in compound fracture of the leg, wherein it secures reduction, and maintains a permanent position of ease, undisturbed even by the most elaborate dressing that can be required in extensive injury to the soft parts. A careful inspection of the instrument will render its application easily understood; but the slight diagram here given may serve to illustrate its leading features.



The stand *a* rests upon the bed; the splint *b* is supported by slings from four uprights at *c c*, and may be raised or lowered at pleasure by the screws at top. The thigh-splint rests on the bed at the ischium, and both behind and at the side can be lengthened or shortened to suit the length of the femur, by acting on screws at *d d*. A groin and a waist belt, passed through the strong loop *e*, fix the pelvis to the splint, giving ease and security to the patient, who is enabled, within certain limits, to move the pelvis, so as to relieve the irksomeness of an unvarying position, and for other necessary purposes. The extension of the leg is effected by acting on the screw at *f*, by which the foot-piece is drawn down gradually, but powerfully, and with the greatest degree of precision. The calf of the leg rests upon a movable piece of India-rubber cloth, or cross strips of bandage, capable of being most easily removed and replaced, when dressing and cleansing are required; and the outside thigh-splint and loop *e* can easily be adjusted for either limb. Of course the injured extremity requires to be protected by pillows suitably arranged on the fracture-bed.

*Lancet*, Sept. 20.

## SECT. V.—RARE SURGICAL CASES.

### ART. 70.—*Remarkable Accident—Impaction of a Large Screw in the Wrist-Joint.*

(*Lancet*, Sept. 13, 1851.)

[The following interesting case occurred in the London Hospital under Mr. Curling, and exhibits the wonderful resources of nature as resisting and remedying the effects of injury:]

William M—, æt. 37, a lucifer-splint cutter, residing in Stepney, was admitted into the London Hospital under the care of Mr. Curling, on the morning of May 6th, 1851, on account of a large screw, with an hexagonal head, being impacted in the right wrist-joint. The history he gave of his accident was as follows:

The knife used in cutting the splints was driven by a steam engine, of eight-horse power, and worked horizontally backwards and forwards in a fixed frame, there being two screws at the posterior part to regulate its motion. At the time of the accident, his right hand was resting upon the frame, and without his being aware of it, the machinery was set in motion; as the knife moved backwards, his hand became fixed between the frame and one of the regulating screws, and the motion being still continued, the head of the latter was forced into the joint, and became firmly fixed there, the sensation at the time being that of a

dead weight upon the part. His hand accompanied the knife in its motions until the machinery was stopped, and then, after some difficulty, the screw was filed through, the major part being left in the limb. He was placed in a cab and brought to the hospital immediately.

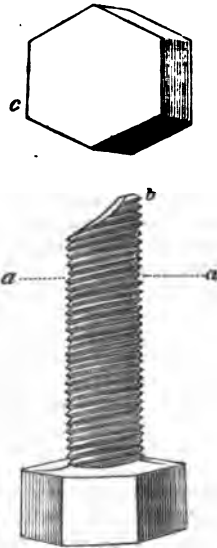
*Examination.*—The limb supinated. On the dorsal surface of the wrist-joint, and opposite to the metacarpal bone of the index-finger, about half an inch of the screw presented itself above the level of the surrounding skin. Let it be well understood that the hexagonal part was stuck in the wrist, and that only half an inch of the circular part was projecting from the surface. When laid hold of, and the hand partly flexed, it could be slightly moved, but when extension took place, it was quite immovable. The skin on the ulnar side was slightly lacerated, but on the radial it was inverted, and embraced the foreign body so tightly, that the smallest probe could not be passed between the two. Around the wound was a small oozing of blood, mixed with synovia.

By means of a scalpel the wound was dilated in either direction, and after some time, and no small amount of force, the foreign body was extracted, a discharge of synovial fluid following this release. During the period of the extraction, the patient was faint, and felt very sick, but immediately afterwards he expressed himself as being in a state of comparative ease. Some small fragments of bone were removed, but there was no bleeding. The limb was placed on a straight splint, and the wound dressed with strips of wet lint. The following is a representation of the screw, exactly of the natural size, *a a* to *b* being the portion above the level of the skin, and *c* the irregular hexagonal head, which had been completely impacted in the joint. Thirty drops of laudanum were administered; the patient slept very comfortably during the evening and early part of the night. On the following day he was very feverish, and continued so for nearly a week, by which time a large quantity of pus began to flow from the wound daily. A linseed-meal poultice was then applied in the place of the wet lint. The lower part of the forearm then began to swell and inflame; and as soon as fluctuation could be detected, Mr. Curling made an opening, which measure was followed by the exit of a purulent matter.

Inflammation, occasionally reaching to the arm, continued to recur at irregular intervals for five weeks, during which period several abscesses formed around the joint, and were opened. On June 8th (about five weeks after admission) great swelling and redness of the parts around the primary wound had taken place, and the pus, which had hitherto flowed freely, was scanty in quantity, and of a different colour from that discharged from the other openings. A probe was carefully inserted between the edges of the wound, and some obstruction was distinctly felt about half an inch below the surface of the skin; a fine pair of dressing forceps was then used to extract the foreign body, which proved to be a small portion (about three quarters of an inch square) of the woollen coat, carried into the joint at the time of the accident.

The next day a large piece of loose bone presented itself on the anterior surface of the joint; it was cut down upon and extracted, the patient experiencing great relief from its removal. From this time the openings of all the abscesses, four or five in number, gradually closed, and the original wound occasionally discharged small fragments of bone previous to its perfect closure.

The patient was discharged on August 7th, three months after admission, and ordered to attend as an out-patient. He was then able to move his fingers without giving himself the slightest pain, and all swelling had subsided.





*\*ART. 71.—Case of Undetected Injury of the Brain.*

By GEORGE ANDERSON, M. D., 12th Lancers.

(*Dublin Quarterly Journal*, May 1851.)

[The following case is interesting as illustrating the slight symptoms which may follow a fatal injury to the brain, until a short time previous to death.]

Trumpeter Henry Grainger, æt. 30 years, was admitted into hospital on the 27th of February, 1851; he was seen at the morning visit, at 10 o'clock, by the assistant-surgeon, Dr. George, who found him in bed, and considered that his ideas were somewhat confused, but attributed this, in part, to indulgence in drink the previous night (the 26th), as, on questioning the patient as to what was the matter with him, he said that on the previous evening he had been fencing with a walking cane with some of his companions, and that he had received a blow on the nose, or a thrust from a cane in the face. On examination, a small punctured wound was observed on the left ala of the nose, which did not appear larger than the wound arising from a leech-bite; and at this time, though somewhat taciturn, he appeared perfectly sensible, and answered readily the questions put to him.

● Fomentations to the wounded part, and aperient medicines, were the remedies prescribed, and no unfavourable symptoms supervened during that day.

At the morning visit on the 28th, he was considered as not better, nor as sensibly worse, though there was no doubt that he was at this time labouring under a considerable degree of stupor; yet no alarming head symptoms were manifest, and consequently no particular examination of the parts where the wound existed was made, and the only additional remedy prescribed was a cold lead lotion to the head and face, and the purgative medicine was repeated.

About 6 o'clock on the same evening I was called by the hospital-sergeant, who stated to me that Grainger was much worse; and though Dr. George informed me, at muster parade in the forenoon, that he could not account for the continued symptoms of drowsiness and stupor in his case, I certainly did not suspect, either *before* or *after* seeing the patient, that there had been any wound of the brain, much less that a foreign body had penetrated to that organ, and was firmly impacted in the patient's skull. When I first saw him this afternoon he was struggling violently with the attendants, who required to use force to keep him in bed; his breathing was stertorous, and he was puffing with the lips; the right eye was fully expanded or staring, and its pupil greatly contracted; ptosis of the left eyelid existed, and on raising the eyelid the pupil was found to be extremely dilated. He had passed a large quantity of urine in bed, and his bowels had been open since morning.

On questioning him, or rather calling him sharply by name, he would raise himself into the sitting posture, throw his arms about, and strike at, or take firm hold of any object within his reach.

I had considerable doubt and difficulty in determining on the immediate measures to be adopted, the history of the case being to me quite obscure, and the symptoms being urgent and most unfavourable. Though the pulse was not full or bounding, the action of the temporal arteries was exaggerated, and therefore looking only to present symptoms, I opened the right temporal artery, and though this was done effectually, I only obtained about a couple of ounces of blood from it. I then opened a vein in the arm, but did not obtain much more blood in this way. A large turpentine enema was then administered, and grain doses of calomel were ordered every hour or half hour. I left the hospital with very slender hopes that a fatal issue could be averted, and I had not been much more than half an hour in my room when I was called to the hospital, but before I reached it the patient had expired, after a violent convulsion attended with great discoloration of the countenance. The fatal event occurred at about a quarter-past 8 o'clock on the evening of the 28th of February, 1851; and the features of the deceased appeared calm, and not distorted, when I saw the body.

The autopsy took place sixty-three hours after death, on Monday, the 3d of March. On removing the calvarium the dura mater presented nothing abnormal,

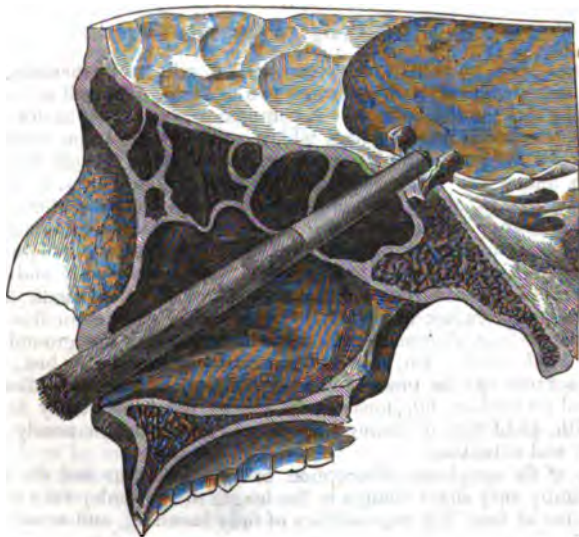
but when it was removed a considerable degree of chronic arachnitis was presented, and the pia mater was found to be very vascular. After dividing the falx cerebri the anterior lobes were raised, and, gradually proceeding backwards, we had got as far as the division of the optic nerves, when the scalpel struck suddenly on a metallic point or substance directed obliquely upwards and backwards, and protruding into the cavity of the skull, close to the left side of the sella turcica of the sphenoid bone, and pressing or lying on the left optic nerve, or left side of the optic commissure.

The cause of the man's death was at once made manifest to myself and Drs. Carte and George, who were present at the examination, as the foreign body was evidently the brass point or ferule of a small walking-cane.

I did not proceed further in the examination, but reported the circumstances to the commanding officer, when a coroner's inquest was ordered to be held on the body.

In the course of the afternoon the coroner held the inquest, and Surgeon Porter, jun., was the medical man ordered by him to investigate into the cause of the soldier's death. I was present when Mr. Porter proceeded with the further examination of the brain, and the parts in connexion with the foreign body. On probing the nostril the end of a foreign body could be detected, and before it was removed by Mr. Porter from the situation it occupied in the skull, it was evident to all present at the examination that it was the broken end of a cane, of which the ferule or brass point presented itself in the inside of the skull, by the side of the posterior clinoid process of the sphenoid bone.

Dr. Carte afterwards made a section of the skull, by which the course of the stick, as shown in the following wood-cut was exhibited. The point of it had pierced the left ala of the nose, at the junction of the cartilage with the bone, taking a direction upwards, backwards, and a little inwards; in its course it grazed the inferior and middle turbinated bones, passed through the great cell in the body of the sphenoid, breaking off and carrying before it the posterior clinoid process, and finally impinging upon, but not rupturing the membranes covering



that portion of the anterior lobe of the brain in immediate relation to the optic nerve of the left side. Anatomically speaking, there was nothing to oppose the onward progress of the stick, for in fact it passed up the nostril, the only resisting part, after it entered the skin, and cartilage, being the body of the sphenoid itself, which, in the present instance, was very slight, its walls affording almost no resistance, in consequence of their extreme thinness.

It is evident that, while fencing as he had described, the cane had accidentally struck the unfortunate man's face, probably from his own act in parrying the thrust, and that the point of it had entered through the left ala of the nose, passing obliquely upwards and backwards until it emerged, as described above, by the side of the sella turcica. I should think that the cane had broken off *short* in the nose when it was being withdrawn by his assailant.

Mr. Porter appeared to be of opinion that the brain presented an inflamed appearance, but this may have been more apparent than real, and may in part, be attributed to *post-mortem* effects and exposure to the atmosphere, which latter had caused the blood in the vessels to assume a more vermilion appearance than it presented on the morning of the examination.

There can be little doubt if a detailed and accurate account of this unfortunate fencing match had been obtained at the time of the patient's admission into the hospital, and the stick which inflicted the injury had been produced (which was done after the man's death and shown to me), that the attention of the medical officer would have been directed to what he, without any further information than the patient's negative statement, considered only as a trivial puncture in the ala of the nose, and would have undoubtedly led him to ascertain that there was a foreign body impacted within the nostril, and, probably, passing backward so as to touch the brain.

I am inclined, however, to the opinion that had all the above information been obtained at the time of the unfortunate soldier's admission into the hospital, the foreign body might not have been extracted from the situation it occupied in the man's skull, as it required considerable force to drive it with a punch and hammer, from within outwards, in the dead body; and if it had been extracted, the question arises, what chance was there of a fatal termination being averted.

#### ART. 72.—*Dislocation of the Femur directly Backward.*

By Dr. HORNER.

(*Prov. Med. and Surg. Journal*, June 25, 1851.)

The case alluded to is that of a man, *æt.* 35, who while assisting to move some coal wagons, got jammed between two of them. As well as he can recollect, he was struck on the buttock. A companion was killed at the same time. The terrible contusions and swelling, which continued for three weeks after the accident, prevented anything like an accurate diagnosis, though fracture of the neck of the femur was suspected. At the end of five weeks, as he suffered much pain in the hip, and down the limb, and was unable to bear his weight on the leg, a further examination was made, and Dr. Horner detected a dislocation of the head of the femur upon the ischium, between the spine and the tuberosity. The signs were as follows:—1st, increased width and flatness of this buttock; 2d, a hard round tumour (head of bone) beneath the gluteus magnus muscle, or rather about the junction of the gluteus medius and maximus; 3d, very slight shortening, the heel not touching the ground when the pelvis was held firmly; 4th, foot apparently natural when in bed; 5th, when standing erect toes can be turned to metatarso-phalangeal articulation of opposite foot, and no further; 6th, toes can be turned out about thirty degrees, and no more; 7th, abduction of femur imperfect; 8th, abduction nearly perfect, as also flexion and extension.

*Summary of the symptoms.*—Perception of head of femur and its motion, on motion of limb; very slight change in the length of the limb; very slight variation in the line of toes, but impossibility of fully inverting, and especially everting the foot. Two days after the use of the pulleys, as before detailed, eversion of the foot was possible to 90 degrees; inversion perfect; improved rotundity of buttock; reappearance of the hollow of the buttock, just above the trochanter major; abduction of the thigh easy, and the patient fully sensible of a change in the state of the part, as well as of more freedom in his motions.

**ART. 73.—Case of Obturator or Thyroidal Hernia Successfully Relieved by Operation.**  
By HENRY ORR, Esq., formerly Assistant-Surgeon to the St. Marylebone Infirmary.

At a meeting of the 'Medico-Chirurgical Society,' the author relates a case in which he operated successfully for this rare form of hernia. The patient, a female, æt. 55, the mother of a large family, was seized with symptoms which led her medical attendant, Mr. Gardener, to believe that she was suffering from rupture. She denied that this was the case, and a careful examination convinced Mr. Gardener that there was no hernia in the usual situations of that disorder. A little below the femoral region on the right side, however, he detected a degree of hardness resembling a small gland, and deeply seated, with some general fulness about the part. The author saw this patient on the fourth day after the symptoms had begun; at this time she was suffering extreme abdominal pain in the umbilical region. During the previous twelve hours her vomiting had been stercoraceous and incessant; the countenance pale and contracted; voice faltering; pulse weak, small, and intermitting—in short, all the symptoms of pending dissolution from strangulated intestine were present. On careful examination, nothing could be detected but a slight degree of fulness in Scarpa's triangle on the right side; that on the opposite side being well marked. On using firm pressure with the ends of the fingers over the neighbourhood of the femoral artery, and a little below the saphenous opening, a distinct hardness was to be felt, slight in extent, but giving the impression as if the sheath of the vessels was being pressed on. The state of the patient was such as to induce the author to propose to make an incision into the upper part of the thigh, down to the hard structure, in the hope that he might find confined intestine low in the femoral canal. He made a straight incision into Scarpa's triangle, as in the operation for tying the common femoral artery, beginning about three inches below Poupart's ligament. When the cribriform fascia was opened, and the saphenous opening exposed, no hernial sac was found, but the hardened structure could be felt lying deep to the inside of this opening. The dissection was with some difficulty continued downward; the fascia lata was divided, and the pectineus muscle exposed. The fibres of this muscle were divided transversely for about an inch and a half or two inches, and a hernial sac was exposed, which rose up into the wound to the size of a pigeon's egg. The finger being passed along the sac, entered the obturator opening. The sac was opened, and the intestine was found to be a portion of the small gut, blue and congested. The opening through which it passed did not tightly enclose its neck, but it was considered prudent slightly to divide the edge. In doing this the saphena vein was wounded, and it was necessary to apply a ligature to its upper part. This was the only ligature required. After the operation no medicine was given; in the course of the day the bowels acted three times, and in a few days afterwards the patient had quite recovered.

Reported in *Medical Gazette*, July, 1851.

**ART. 74.—Extirpation of a Voluminous Bronchocele.** By M. Roux.

M. Roux presented, some time ago, a patient of his to the Academy of Medicine, from whom he had successfully removed a large bronchocele. The man's age is about thirty-five, and the tumour, at first very small, had been increasing, during the last fifteen years, to the size of two fists, and lay principally on the left side of the neck. The swelling was somewhat hard, almost immovable; and seemed firmly attached to the larynx. The patient was extremely anxious for its removal, and M. Roux, after some hesitation, consented to operate. The incision was made in a longitudinal direction, and ran from the os hyoides to the sternum; M. Roux found it easy to enucleate the growth, with the precaution, however, of tying the thyroid arteries and some venous trunks as they came into view. When the tumour was almost completely detached, the pedicle, by

which it was still connected with the neck, was tied, and then divided in front of the ligature.

The only phenomenon worthy of attention, which was noticed during the operation, was a fit of dyspnoea, after which the patient experienced an almost complete aphony; this lasted some time after the operation, and even now there is much hoarseness left. M. Roux accounts for this circumstance by attributing it to the division of the anterior laryngeal nerve. The patient was operated on two months ago, and the wound is now perfectly cicatrised. The tumour weighed about nine ounces and a half; it measured nine inches in circumference, and about seven in its transverse diameter. M. Velpeau was afraid that M. Roux's example would be too readily followed by other surgeons under less favourable circumstances, and thought the operation very dangerous. At the meeting, of the 24th of September, M. Velpeau himself brought forward another case of extirpation of a bronchocele, which was performed by M. Cabaret, of St. Malo; this was successful, as well as a third undertaken by M. Hutin. Some discussion arose as to the propriety of giving the name of goitre to tumours arising on the thyroid body, as well as to enlargement of that gland itself. M. Sédillot contended that that appellation ought to be confined to enlargements of the thyroid gland; Messrs. Velpeau and Roux opposed that opinion.

*Archives Générales de Médecine.*

## PART III.

# MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

### SECT. I.—MIDWIFERY AND DISEASES OF WOMEN.

ART. 75.—*On Ovarian Irritation.* By FLEETWOOD CHURCHILL, M.D.

(*Dublin Quarterly Journal*, August.)

[THE disease to which the above term is given, closely resembles the sub-acute ovaritis of Dr. Tilt; but the cases from which the author has drawn his description lead him to believe the disease is not really inflammatory. His account of it is as follows:]

The chief characteristic symptom is an uneasiness, amounting in the greater number of cases to pain, and in some cases to very severe pain, in one or both iliac or inguinal regions, but most frequently in the left, which Professor Simpson seems to think is owing to the propinquity of the left ovary to the rectum, and the exposure to any irritation thence arising. This pain may be a constant dull aching, or it may be acute and occurring in paroxysms; it is greatly aggravated by standing, and generally by walking; in the severer cases the patient is quite unable to walk.

There is generally some complaint of fulness about the iliac region, but nothing like a distinct tumour is to be felt. There is, however, always considerable tenderness, which, in some cases, is extreme to the slightest touch. When the irritation is great, it may be extended to the bladder, giving rise to a desire to evacuate its contents frequently, and causing great pain in doing so. Hysterical paroxysms are by no means unfrequent.

If we make a vaginal or rectal examination we shall most frequently discover nothing unusual, neither heat nor tenderness nor swelling; in a few cases, however, I have found that moving the uterus laterally caused uneasiness in the side affected.

These are the principal local and direct symptoms the author has observed; they vary much in degree, and are in some cases so intense as to resemble an attack of acute ovaritis. They differ also more or less according to the circumstances in which the attack occurs; and, in order to elucidate this point, the author briefly enumerates the circumstances.

1. In patients who suffer occasionally from amenorrhœa, it is not uncommon to find ovarian irritation at these periods, and not altogether confined to them. Whether the ovarian irritation be the cause of the suppression of the catamenia, or merely a symptom, is a question not easily decided. In many cases he thinks it is probably the primary affection, but in some others it appears to be the result of the amenorrhœa. The suffering is often considerable, and may be prolonged until the next catamenial evacuation; if that be full and free, the pain and tenderness generally disappear.

2. Upon the sudden suppression of menstruation, it is not unusual for the ovaries to be almost instantly affected, either by the form of disease described, or by an acute inflammatory attack, which is more rare.

3. In dysmenorrhœa there is more or less ovarian irritation. If we examine the patient minutely as to the seat of the pain during the period, we shall find that it is principally in the region of one or both ovaries, and often accompanied

by tenderness on pressure. In the majority of these cases the ovaries are secondarily affected.

4. In menorrhagia the ovaries may apparently preserve their integrity for a long time; but if the attacks be frequent, the author generally finds that these organs, one or both, become affected, and that the irritation frequently continues long after the discharge has ceased.

5. The author has repeatedly seen this ovarian irritation accompany congestion and erosion of the cervix uteri, but it most frequently comes on after the latter disease has persisted for some time, or after it is nearly or quite cured. The ovarian irritation, however, in these cases, very soon subsides.

6. It occurs in hysteria, both when the latter is evidently dependent upon catamenial disturbance, and when the periodical discharge is quite correct.

7. In some few cases ovarian irritation has been recognised in cases where the uterine and ovarian monthly functions were apparently accurately performed, but the patients were of a highly nervous temperament, in delicate health, and without offspring.

Speaking as to the *pathology* of this affection, the author entertains no doubt that the ovaries, one or both, are the seat of the irritation; the peculiar and fixed locality of the pain and its frequent connexion with the ovarian function of menstruation, all confirm this view. But the next question he considers more difficult to decide positively, viz., is the disorder an inflammatory affection of the ovaries either acute or subacute? The author believes it to be neither one nor the other, but that the affection described is essentially neuralgic, and not inflammatory.

Again, he asks, is this ovarian irritation the cause of the menstrual disorder or its effect, or merely a concomitant symptom? To this he replies that, without doubting that ovarian irritation may disturb the menstrual functions in various ways, he cannot agree with those who think that it invariably does so, nor yet with those who are inclined to attribute all menstrual disorders to deviations from the normal condition of the ovaries.

In enumerating *causes* of ovarian irritation, the author names all those which act upon either the uterus or ovary and disturb their functions, and among these the most frequent, probably, is cold.

He believes that, in many cases, excess in sexual intercourse has given rise to it, and also that in a few cases it may originate from the entire deprivation of that stimulus.

The circumstances under which the attack occurs, that is, its relation to the menstrual functions, the symptoms, and the peculiar locality of the pain, render the *diagnosis* tolerably easy in most cases. It may, certainly, be mistaken for intestinal irritation; but, in general, there are no other symptoms than the pain to justify such an opinion. The bowels, even if irregular, are free from irritability.

It will, however, require a little more trouble to render it certain that there is not acute ovaritis, which the tenderness might lead us to suspect. But this tenderness is *generally much greater than that resulting from inflammation*; it is a kind of a nervous tenderness which shrieks from the weight of a finger as much as from severe pressure. Moreover, in acute ovaritis, the organ is always swollen and enlarged, and it can generally be felt distinctly to be so by an internal examination.

In phlegmonous inflammation of the uterine appendages, or pelvic abscess, as it has been termed, the hard and painful tumefaction is quite plain at the brim of the pelvis, and, therefore, it cannot easily be confounded with the present disorder.

The author does not enter at any length into details of the *treatment* of this disease. In the choice of remedies he is governed, to a certain extent, by the health, strength, and state of constitution of the patient. With strong, healthy women he has tried leeches to the ovarian region, with some benefit but not complete success, nor in all cases: from six to twelve may be applied at once, and repeated, if necessary, after an interval. Poultices after the leeching are of use; and, indeed, when no leeches have been applied, much comfort and relief will be derived from repeated poulticing. With delicate women, and they

are frequently the subjects of this disease, bleeding in any form has appeared rather injurious than beneficial.

The author has tried the repeated application of small blisters with better results than leeching. The irritation of the surface certainly relieves the pain in many cases, and, if continued, may finally cure it.

Anodyne liniments and anodyne plasters occasionally seem to afford relief, but they are often of little or no use; anodyne enemata have been used several times with partial success.

Having failed in affording any relief in two or three obstinate cases, Dr. Churchill determined to try the effect of opium applied to the upper part of the vaginal surface. He accordingly ordered some balls or pessaries to be made, somewhat in the mode of Dr. Simpson's medicated pessaries, each ball to contain two grains of opium, half a drachm of white wax, and a drachm and a half of lard. The whole, when mixed together, formed a ball about the size of a large marble, which was placed at the upper end of the vagina by means of the speculum, leaving the patient in bed for the day. The success was beyond the author's expectation, and has been not less so in very many subsequent cases.

ART. 76.—*On Irritable Uterus.* By F. W. MACKENZIE, M.D.

(*London Journal of Medicine*, May, 1851.)

The term *Irritable Uterus* is applied to a painful condition of the organ, not caused by displacement, inflammation, or appreciable organic disease. It is met with in various degrees of intensity, from slight uneasiness to excruciating suffering. Although apparently a simple lesion of innervation, it is found to be a very obstinate disorder.

The slighter forms of the disorder are characterized by pain in the uterine region, increased by standing or walking, and relieved by lying down. The pain radiates from the uterus to the groins, loins, and hips. A sensation of bearing down is often complained of, and there is leucorrhœa or dysmenorrhœa. On examination the uterus is found to be excessively sensitive to the touch, but not displaced, or sensibly diseased. The general health is generally feeble, the circulation languid, and the digestive organs are generally in a faulty condition. The patient will often be found to have suffered from severe mental affliction, or has undergone physical privation and fatigue, and that, as a consequence, spinal irritation and æmîa have resulted.

The more severe form of this disease has been very graphically described by Dr. Gooch. He remarks that a patient, suffering from irritable uterus, complains of pain in the lowest part of the abdomen along the brim of the pelvis, and often also in the loins. The pain is worse when she is up and taking exercise, and less when she is at rest in the horizontal posture. If the uterus is examined, it is found to be exquisitely tender. As soon as the finger reaches, and is pressed against, the uterus, it gives exquisite pain; this tenderness, however, varies, at different times, according to the degree of pain which has been latterly experienced. The neck and body of the uterus feel slightly swollen; but this condition also exists in different degrees; sometimes being sufficiently manifest, sometimes scarcely or not at all perceptible. Excepting, however, this tenderness, and the occasional swelling, or rather tension, the uterus feels perfectly natural in structure. There is no evidence of scirrhus in the neck; the orifice is not misshapen, nor are its edges indurated. The circulation is but little disturbed; the pulse is soft, and not much quicker than is natural, but it is easily quickened by the slightest emotion. In a few instances, however, there has been a greater and more permanent excitement of the general circulation. The degree in which the health has been reduced has been different in different cases. A patient who was originally delicate, who had suffered long, and has used much depletory treatment, has been, as might reasonably be expected, the most reduced. She has grown thin, pale, weak, and nervous. Menstruation often continues regular, but sometimes diminishes or ceases altogether. The functions of the stomach and bowels are not more interrupted than might be



expected from the loss of air and exercise; the appetite is not good, and the bowels require aperients; yet nothing more surely occasions a paroxysm of pain than an active purgative. Such are the leading symptoms of this distressing complaint. To embody them in one view, let the reader imagine to himself a young or middle-aged woman, somewhat reduced in flesh and health, almost living on her sofa for months or even years, suffering from a constant pain in the uterus, which renders her unable to sit up, or to take exercise;—the uterus, on examination, unchanged in structure, but exquisitely tender, even in the recumbent posture; always in pain, but more or less frequently subject to great aggravations.

With regard to the pathology of these cases, Dr. Gooch observes, that the causes, to which this disease has been attributed, are generally considerable bodily exertion at times when the uterus is in a susceptible state; but he remarks, that the patients had previously manifested signs of a predisposition to it. They were all sensitive in body and mind, and many of them had previously been subject to painful menstruation. As to its proximate nature, he is satisfied by stating that it consists in a morbid condition of the uterine nerves, attended by pain, and sometimes vascular fulness; and he likens it to the irritable breast, the irritable testis, and the painful condition of the joints which is sometimes met with in hysterical females. He does not venture to explain its pathology any further.

A consideration of the cases of this disease which have come under my notice, appears to me to justify the following conclusions:—

*First.* That, in the majority of instances, irritable uterus is rather a sympathetic than an idiopathic disease of that organ.

*Secondly.* That it is sympathetic of irritative disorder of various organs with which the uterus has intimate relations, the irritation of which is reflected, either partially or entirely, upon the uterine ganglia and nerves.

*Thirdly.* That whilst such reflected irritation is its immediate cause, it is remotely dependent upon a defective condition of the blood, which would appear to operate by producing a morbidly irritable state of the nervous system generally, and of the uterine ganglia and nerves in particular.

[These propositions are supported by the detail of nine well-selected cases, upon which Dr. Mackenzie makes the following general observations:]

Upon a general review of the preceding cases, the first inference I would venture to draw from them is, that they are affirmative of the truth of the propositions which were advanced at the commencement of this paper. In all, the uterine affection appeared to be consecutive to, or sympathetic of, constitutional derangement or irritative disorder of other organs. In none could it be regarded as dependent upon idiopathic disease of the uterus; and additional corroboration is derived from the fact, that it disappeared, in most instances, under the influence of treatment of a general rather than of a specific character.

Another inference which may be drawn from them is, that the influence of gastro-intestinal disorder and spinal irritation are very considerable in the causation of uterine derangements. In the majority of the cases reported, these co-existed, and would seem to have had a similarity of origin. In all, they were associated with anæmia, and had been preceded by much mental anxiety. How much, therefore, is due to each in the production of the uterine symptoms in these cases, it is impossible to say. Many circumstances, however, which have come to my knowledge, lead me to believe that derangements of the uterus, involving more particularly its nutritive and secretory functions, such as leucorrhœa and disorders of menstruation, have rather a gastro-intestinal origin when sympathetically induced; whilst those which affect more particularly its sensory functions, producing neuralgia and various irritable conditions, are, for the most part, connected with an irritable or morbid condition of the spinal cord.

But it is not contended, that hystericalgia is in all cases necessarily connected with spinal irritation, or gastro-intestinal disorder. I believe them to be very frequent causes, but I have met with instances in which it existed irrespectively of either. In gouty and rheumatic subjects, considerable uterine pain, more or less of a persistent character, is often met with, doubtless of a gouty or rheu-

matic nature; and I believe that severe irritation of any important organ or nerve may, under certain circumstances, be reflected upon the uterus, so as to give rise to very distressing symptoms.

[In further illustration of the pathology of these affections, the author has made the following analysis of thirty-seven cases, in which the uterus was in a morbidly irritable state, not in consequence of displacement or appreciable disease. In all there was marked pain and uneasiness in the region of the uterus, which varied in intensity in different instances, and in some had been of long continuance:]

1. UTERINE COMPLICATIONS were observed in the following proportions:—

In 3 there was no other uterine disease.

" 15 the pain was complicated with leucorrhœa.

" 7 " " leucorrhœa and dysmenorrhœa.

" 3 " " leucorrhœa and amenorrhœa.

" 1 " " leucorrhœa and menorrhagia.

" 4 " " leucorrhœa and irregular menstruation.

" 4 " " dysmenorrhœa alone.

" 2 " " menorrhagia.

" 1 " " fibrous enlargement of the neck of uterus.

2. ANTECEDENTS. The irritable state of the uterus had been preceded:—

In 4 cases, by weakening discharges, such as profuse hemorrhage, and protracted suckling.

" 5 " mental anxiety and distress.

" 8 " mental anxiety, with disorder of the digestive organs.

" 2 " sudden fright.

" 18 " disorder of the digestive organs.

3. CONCOMITANT AFFECTIONS:—

In 18 there was well-marked anæmia, with disorder of the stomach and digestive organs.

" 12 " anæmia, with spinal irritation.

" 3 " spinal irritation.

" 4 " great irritability of stomach and digestive organs.

[The facts contained in the foregoing analysis appear, to the author, to justify the following conclusions:]

*First.*—That, from the operation of the same causes, various and dissimilar uterine diseases may be occasioned. Thus the principal antecedent circumstances in these cases were, for the most part, the same, and yet very different disorders were the consequence. In some, there was simply a painful condition of the uterus; in others, this co-existed with leucorrhœa, amenorrhœa, dysmenorrhœa, menorrhagia, &c. The probable explanation of this is, that the operation of the different causes in question is primarily upon the nerves of the uterus, and that irregular actions, in regard to these, precede and give rise to those particular symptoms, which, in the aggregate, constitute disease as known by a given appellation.

*Secondly.*—That, all these lesions may arise from constitutional disorder, may be perpetuated by it, and in many instances will cease on its removal. In these cases the chief circumstances which had preceded were either of an enervating or depressing nature; such as loss of blood, over-suckling, &c., or mental depression or uneasiness. The obvious effect of these would be to lower the tone of the nervous system generally, and to render it morbidly susceptible to impression. Thus it would happen in regard to the uterine ganglia and nerves, that they would be prone to irregular actions, and to participate readily in the morbid affections and conditions of other organs. If, again, the impressions leading to such abnormal actions are received from or through the medium of the ganglionic system of the nerves, it is reasonable to suppose that the functions to which these are more immediately subservient, such as nutrition and secretion, would be more particularly disturbed, whilst those received from or through the medium of the cerebro-spinal system would rather give rise to painful and

uneasy feelings; and thus may arise the difference in the uterine derangement, which is consecutive to chylopoietic disorder and spinal irritation.

ART. 77.—*On a Form of Sanguineous Pelvic Tumour in Females.*  
By M. NÉLATON.

(*L'Union Médicale, and London Journal of Medicine, June, 1851.*)

M. Nélaton calls attention to a peculiar form of tumour, hitherto much neglected by authors. These tumours are usually preceded by some general symptoms, such as *malaise*, disturbed menstruation, pains in the hypogastrium, and a feeling as if a heavy body were about to escape from the vagina. The abdomen is sometimes enlarged, and a hard, very painful tumour is felt by the patient in the hypogastric region; in other cases, they are not aware of its existence, and, when it is pointed out to them, they cannot say how long they have had it. On examination, the abdomen is found to be inflated, tense, convex, and painful. The decubitus is dorsal, with the thighs flexed on the pelvis. By palpation in the hypogastrium, a tumour is felt in the cavity of the pelvis (*petit bassin*). This is sometimes confined within its inner border, and sometimes extends as high as the umbilicus; it is commonly inclined towards the right iliac fossa. The tumour is small, rounded, without knotty projections, and becomes gradually lost in the pelvic cavity; it is scarcely movable, and is of pretty firm consistence, sometimes presenting fluctuation. On vaginal examination, there is found, between the uterus and rectum, a tumour, advancing towards the orifice of the vulva in proportion to its size. It is smooth, rounded, and fluctuating, varying from the size of a large goose-egg to that of a thumb, without pulsation or expansive movement; it may narrow the vaginal canal so as only to permit of the passage of the index finger. The uterus may be raised by the tumour, so that its body may be felt above the pubes; and its neck may be so much elevated, that the fore-finger can only with great difficulty reach it.

The treatment of these tumours consists in evacuating the liquid which they contain. M. Nélaton proposes to employ a large trocar, and then a simple lithotome to enlarge the opening. The patient is placed on her back, on a tolerably high bed, with her legs and thighs bent, as in the position for lithotomy. By introducing a speculum into the vagina, the tumour is discovered towards its base, at the posterior wall. The point where fluctuation is most apparent having been discovered, a long trocar is introduced, with a canula sufficiently long to allow the escape of the matter, which is liquid, black, and viscid, like treacle. The incision ought generally to be three *centimètres* in extent; it should be made in the axis of the vagina, so as to avoid wounding the uterine arteries. It should also be carefully ascertained that there are no arteries on that part of the wall in which the incision is made. The incision should neither be too wide nor too deep, so that the rectum may be avoided. When, some days after the operation, the liquid which escapes has become purulent and fetid, disinfectant agents should be employed. The strength of the patient should at the same time be supported by quinine and other tonics. The walls of the tumour should also be explored with a scoop (*curette*), so as to remove any adherent clots, which may be in a state of commencing putrefaction.

ART. 78.—*On the Round Ligaments of the Uterus.* By M. RAU.

(*Zeitschrift für Geburt., and Brit. and For. Med.-Chir. Rev., July 1851.*)

In this paper M. Rau refers, at great length, to the various opinions that have prevailed respecting the structure, functions, and diseases of the round ligaments; but we have only space to refer to his own views. In regard to their *structure*, he considers that, for two-thirds of their course, they are composed of a continuation of the muscular substance of the uterus, over the anterior and posterior surface of which they are expanded fan-like, reaching to its fundus, and encompassing it on either side. The muscular fibres are chiefly in connexion with the

most superficial layers of the uterine structure, but likewise do extend to the middle ones. He admits the correctness of Rosenberger's description of the course of the three bundles of muscular fibres that form part of the ligament, while it is in the inguinal canal; but he objects to the statement that they quit this with the termination of the ligament. The muscular fasciculi take an exactly contrary direction towards the uterus. Some of the fibres proceed to the horizontal ramus and symphysis pubis, as observed by some older writers, though erroneously contradicted by Haller.

Among the various opinions which have been entertained as to their *functions*, that which has preponderated assigns to them the power of exerting a fixing or suspending power upon the uterus. Displacement and prolapse of this organ have been explained by their rupture or relaxation,—no one caring, however, to demonstrate the existence of these conditions, or to explain why, in cases of the absence of these ligaments, such change in the position of the uterus was not observed. Direct experiment has shown the great extent to which this organ may be changed in position, without exerting any corresponding effect upon the ligaments. In M. Rau's opinion, during the unimpregnated state, the ligaments exercise no function; and they only enter into activity when their muscular structure, in common with that of the uterus, undergoes so vast a development, that by the ninth month of pregnancy this has increased six-fold. A consideration of their various points of insertion in the abdominal ring, the fascia femoris and the pubis, on the one hand, and their powerful expansion over the uterus on the other, teaches us at a glance in what direction their power is exerted. The elevated uterus, containing the ovum, is drawn down towards the pelvis, the fundus being directed forwards and the cervix backwards, and the child's entrance into the superior aperture of the pelvis facilitated. The fundus uteri contracts itself laterally, in order to expel its contents; and the necessary consequence of the distribution of fibres is the raising and pointing the os uteri during the prevalence of a pain—the round ligaments furnishing a *punctum fixum* during the screw-like motion of the organ,—or this very motion may be due to the agency of the ligaments. The contractile action of the round ligaments is exerted even for weeks prior to labour, producing a painless action (*travail insensible*), the fruit of which, when it does not become too urgent and induce premature labour, is confined to the production of that sinking of the womb observable during the latter weeks of pregnancy.

There is very little original matter in M. Rau's observations upon the *diseases* of the round ligament. His references, too, chiefly relate to the older writers; and he does not seem to be aware that much has been published of a later date.

**ART. 79.—Retention of the Catamenia.—Death from Effusion into the Peritoneum through the Fallopian Tubes.** By Dr. MARCHAND.

(*Archives Générales de Médecine*, July, 1851.)

**Case.**—A young woman, æt. 22, who had never menstruated, had suffered since the age of 13 or 14 from pains in the hypogastrium and loins. The pains recurred each month at the same period, and continued three or four days. During some years the abdomen had been tense, and, for some time, the enlargement and the pain had gradually and considerably increased: the general health was, however, very good. On examination, it was ascertained that the external orifice of the vagina was closed by a membrane, behind which the menstrual fluid was retained. This membrane was laid open by a crucial incision; and, after some blood had been forcibly ejected to some distance, there escaped two or three quarts of a black inodorous fluid, without clots. Compression was made on the abdomen. For three days the menstrual fluid continued to escape without pain, to the amount of four or five quarts: the abdomen diminished in size, and the patient seemed to be going on well, when she was seized, on the fifth day, with subacute peritonitis, of which she died nine days after the operation.

**Autopsy.**—The whole of the peritoneum beneath the transversalis muscles was in a state of inflammation. The convolutions of the intestines, slightly adherent

to each other, were covered with false membranes, the serous membrane beneath being of a deep red colour, especially in the vicinity of the pelvis, where, and in the iliac fossæ, there was some pus or sero-purulent fluid. The uterus was longer than natural, about the size of a fist; the cavity of the neck was also dilated. The vagina was enormously dilated, especially towards the upper portion. The vaginal and uterine mucous membrane were tinged with blood. The Fallopian tubes presented different appearances in their uterine and in their ovarian portions. The uterine part was normal; while the ovarian or abdominal end was distended with black blood, and resembled a varicose vein of the size, at least, of the little finger. The dark blood which they contained was very fluid, and could be very easily pressed out in drops through the fimbriated end of the tube. There were some drops of the dark blood on the portions of the peritoneum in contact with the Fallopian tubes; and at these points were the most evident traces of peritonitis.

ART. 80.—*On Bandaging the Abdomen after Delivery.*  
By W. B. KESTEVEN, Surgeon.

(*Medical Gazette*, Sept. 12, 1851.)

[Mr. Kesteven, although sensible that the weight of opinion is against him, records his conviction that too much stress has been laid upon the importance of the bandage after delivery, and that the rationale of its usefulness has been misunderstood. In order to arrive at a correct conclusion on the subject, he examines it under the following points of view:—1st. The alleged object to be gained by the bandage. 2d. Its real effects. 3d. Its proper object, and the right period for its application. With this intent, he thus proceeds:—]

1st. The objects alleged to be gained by the application of the roller directly after the completion of labour, are:—*a*, to promote the contraction of the uterus; *b*, to lessen the severity of the after-pains; *c*, to prevent hemorrhage; *d*, to prevent syncope; *e*, to protect the patient against the consequences of sudden alteration of the balance of the circulation, by which syncope, inactivity of the uterus, hemorrhage, and subsequent diseases, have been produced.

On examining, at the bedside, the validity of these several objects, it may be observed, in the first place, that all, or any, of these supposed ends may be gained without the use of the bandage.

*a*. In the vast majority of cases the uterus contracts rapidly, firmly, and permanently, directly upon delivery, without the aid of bandaging. That such is the case a very short experience among the *labouring poor* will soon convince the clinical student. The poor women who are delivered by midwives, and the hundreds, ay thousands, who are yearly delivered without any aid, would, were it not so, have all the dangers of uncontracted uterus to contend with. That such is rarely the case admits of no doubt.

*b*. That measure which shall promote the contraction of the uterus can hardly be seriously recommended as a means of lessening the severity of the after-pains; the contradiction is too manifest to require further comment.

*c*. For the prevention of hemorrhage the application of a roller certainly possesses no claim. Every practitioner who has diligently applied the bandage has had to remove it, in order to apply that efficient pressure to the uterus which is most important in promoting its contractions, hemorrhage having taken place in spite of the compression that had been made by the bandage. In fact, the tightly bandaging the hypogastric region with the addition of pads, compresses, basins, &c., &c., has probably frequently given rise to hemorrhage by interfering with the gradual tonic contraction of the uterus. The early application of a binder and compress is a complete obstacle to that vigilant attention to the state of the uterus after labour, which it is the wisdom as well as the duty of the medical attendant to pay for some little time after delivery. Where pressure is properly made, hemorrhage is not frequently met with. The very officious accoucheur, who loads his patient's abdomen with divers pads, and other similar contrivances, must frequently have had occasion to remove them. Without these, the earliest signs of hemorrhage may be recognised; with them, they are

often concealed; without these hindrances, therefore, the occurrence may be arrested at its outset. It is not the purpose of the present communication to dwell upon the treatment of uterine hemorrhage, but the above hints may serve to show that the bandage has few claims for adoption on that score.

d. The prevention of syncope is undoubtedly an object of paramount importance; it calls, therefore, for very full examination, as obtainable by the use of the bandage after labour. The indication for its use in reference to the prevention of syncope is theoretically deduced by analogy from the necessity that exists for the application of abdominal compression during the operation of paracentesis. Here, although an analogy does undoubtedly exist, the cases are far from parallel—the conditions not identical—at least not in labour unattended with flooding. When hemorrhage from the uterus occurs, the heart is then physiologically affected in the same manner as where a large quantity of dropsical effusion has suddenly been removed from the abdomen. The removal of the pressure from surrounding vessels in the one case being performed in the upright or sitting posture, suddenly empties the heart of its blood, in the same way that it is emptied by a sudden gush from the uterus. In natural labour there are these points of physiological difference: the heart is not suddenly deprived of a quantity of blood, because the mass of blood previously circulating in the enlarged vessels and hypertrophied structure of the uterus is thrown back upon the aorta *pari passu* with the diminution of the tumour by the contractions of the uterus. The consequent removal of pressure from the surrounding vessels is therefore compensated by the non-abstraction of blood from the arterial system, which so far, may be regarded as the equivalent of the compression which is had recourse to for the purpose of obviating the sudden change in the state of the circulation that takes place in tapping. Cases of excessive quantity of liquor amnii, triplet and quartet cases, form instances in which the analogy with the effect of tapping becomes closer. The difference in position must also be borne in mind, when an analogy is attempted to be drawn between these two conditions. In tapping, the position is erect—in labour, it is horizontal. To this rule of difference, however, exceptions occur, parturition sometimes occurs so rapidly, and so unexpectedly, that delivery takes place before the parturient woman can assume the recumbent posture. That such exceptional cases do not invalidate the rule is sufficiently shown by their rarity, and also by the evil consequences that often follow thereon. It may be remarked then for these reasons, that it is obvious that women after delivery have not to thank the bandage for their exemption from syncope. The writer has never seen a case of mere syncope occurring after labour, where the horizontal posture has been carefully observed for some hours, although he has systematically neglected to apply the bandage. He has occasionally seen it, and has heard of even fatal syncope where this precaution of the horizontal position has been violated.

e. Having above disposed of the futility of the argument for the use of the bandage to prevent hemorrhage or syncope, other evils supposed to be consequent upon a disturbance of the balance of the circulation are obviously as likely to be benefited by that contrivance.

The second division of this subject is next examined.

2d. The real effect of bandaging the abdomen after delivery.

a. It affords support to the abdominal walls, if applied moderately firm.

b. It gives comfort to the patient, and meets her wishes or prejudices with reference to the preservation of the figure. Among its effects, which are not so harmless as these, are its aggravation of after pains, and the inducement of irregular contraction of the uterus; its obstruction to manipulations; its interference with the action of the diaphragm; its displacing the uterus, and causing obliquity, prolapsus, &c., of that organ; its interference with a most valuable means of controlling uterine hemorrhage, viz., the compression of the aorta. All these are highly important matters, and are to be found among the consequences of the tight bandaging which is adopted by some practitioners.

3d. The consideration of the two preceding topics leads to that of the third,—the proper object of, and right period for the application of the bandage. The first point may be very briefly expressed in the words of Dr. Blundell. It is to be applied "with that degree of tension which may yield a sense of grateful

support." This is the whole truth of the question—the sole object of the bandage is to afford a comfortable degree of support; it is not to effect forcible compression of the abdomen.

The proper period for its employment is therefore not until the uterus has firmly contracted, the patient having been left to undisturbed rest for at least two hours, has had her linen changed, and is being "put to bed." Before this period it, as has been shown, is but an incumbrance. At this time the bandage will afford "a sense of grateful support," and will meet the patient's prejudice with reference to the preservation of her figure—a prejudice which may in this way be harmlessly humoured; it being emphatically impressed upon the minds of the patient and her attendants, that the application of a bandage is of infinitely less importance than quiet rest; that the contraction of the uterus is more effectually and naturally induced by the child's mouth at the nipple, than by all the screwing and squeezing machines that ever were contrived.

If the necessity of any proceeding may be measured by the end it is intended to serve, most assuredly the importance of the abdominal bandage has been much over-rated. The preceding remarks have shown that its alleged objects are not obtainable, even if they are desirable; that its real effects are either trifling, or evil; that its proper object is of a very subordinate character, and pertaining rather to the functions of the nurse than to those of the medical attendant.

**ART. 81.—On Fissure and Laceration of the Perineum and Cervix Uteri in Natural Labour. By Professor SIMPSON.**

(*Monthly Journal of Medical Science, May, 1851.*)

As the result of a long series of observations, Dr. Simpson has drawn the following conclusions:

1. Fissuring and laceration of the cervix uteri and perineum are not, as is generally conceived, rare lesions during labour; on the contrary, they are very common occurrences, especially in primiparous labours.

2. These lesions are not, as has been often alleged, necessarily the result of mismanagement, but they occur constantly in practice, despite every modification of management, and in cases also in which no kind of management has been adopted.

3. Evidence of the great frequency of laceration of the anterior structures of the perineum is furnished by—1st. Almost every careful autopsy of women after delivery, whether assisted or not assisted during their labour. 2d. By the contracted or shortened state in which the perineum is almost always found, when vaginal examinations are made for uterine disease in women who have borne a family. 3d. By the fissuring or laceration itself being usually traceable (under careful tactile examination), particularly in the first labours, when that examination is instituted in the interval of pain, immediately before the passage of the child's head, or after its birth.

4. Lacerations of the perineum may be often felt beginning in the form of slight roughish rents or fissures upon the mucous surface of the perineum, and these may extend either backwards or forwards; and if they extend forwards, they at last run over the edge of the perineum, and along its cutaneous surface; the mucous and cutaneous structures of the perineum being thus sometimes lacerated, whilst its middle, cellular, and fascial tissues are comparatively entire, or at least not so deeply and extensively injured.

5. The proper management and support of the perineum no doubt modifies and diminishes this form of perineal lesion; but it fails far more frequently than is generally supposed in entirely preventing it.

6. The evidence of the frequency of fissuring of the os and of the lower or vaginal portion of the cervix uteri is the same in character, and consists principally—1st. In the frequency with which slight laceration of the edges of the os, and of the mucous and middle coat of the cervix, is detected in autopsies after natural labours, and particularly with first children. 2d. In the permanent

marks of its previous occurrence, as exhibited in those cicatrices and irregularities of the cervix uteri which anatomists have long empirically, but correctly, laid down as proofs that they in whose bodies they are found, have been previously mothers.

7. Fissures and lacerations of the vaginal portion of the cervix uteri not unfrequently occur to a very considerable extent, in cases in which the tissues of the cervix have been rendered rigid by previous inflammation, by carcinoma, or by other morbid causes; and, in such cases, this fissuring or laceration, if limited to the lower or vaginal portion of the cervix, seems to be accompanied with little or no danger.

*ART. 82.—Separation of the entire Circumference of the Vaginal portion of the Cervix Uteri, from pressure of the Child's Head during Labour.*

Mrs. D—, from Ireland, æt. from 30 to 35, of a strong muscular frame and sanguine temperament, was taken in labour with her first child on the 4th of November, 1845, about 12 m.

The os uteri, when first examined, was found dilated to the size of half a dollar, its edges were thin and hard, membranes somewhat protruding and tense. The anterior lip of the os presented a remarkable prolongation of an inch apparently.

The membranes soon ruptured, and the pains became more energetic. The os uteri and the vagina were nearly free from secretion. The pains became very strong and bearing down. There was frequent vomiting and insatiable thirst.

On the 5th, at 6 a. m. The head of the child was found to have descended, carrying before it the os uteri. The prolongation of the anterior lip was engorged, an inch in thickness, and presented in advance of the vestibulum. Posteriorly the os uteri was thin, hard, and very rigid. Pulse full and strong; face flushed, and skin hot; vomiting persisting. She was bled from twenty to twenty-four ounces. In the course of the morning, a pint and a half of urine was drawn from the bladder by the aid of a gum-elastic catheter. The bleeding was repeated to the extent of a pint, and the extract of belladonna was applied to the os uteri.

At 10½ p. m., nearly thirty-five hours from the commencement of active labour, the pains having become still more energetic, the head was suddenly delivered, and upon examination it was found that a portion of the cervix had preceded it. Supposing at the moment that the laceration was only partial, the operator cut across that portion which presented, with a pair of scissors; but in a moment after, the body of the child was delivered, when it was ascertained that the separation had been nearly complete, the portion attached, and which had to be cut with the scissors, being only about half an inch long. The width of the separated cervix varied from an inch to an inch and a half.

The delivery of the child was followed by a gush of very offensive and partially coagulated blood. The placenta had separated before delivery, and was removed. The child was, of course, still-born.

On the 7th, the pulse was 84, skin pleasant, abdomen but little painful to the touch.

In the evening, the pulse rose to 102, and the abdomen became more tender. Ordered calomel, gr. v, and Dover's powder, gr. x; hop fomentations and an enema.

On the 8th she was relieved, and convalescence fairly commenced. The lochia were natural.

The woman subsequently became pregnant again and was safely delivered.

*American Journal of Medical Science, April 1851.*



ART. 83.—*Remarks on the Cæsarean Section,—Craniotomy,—and the Induction of Premature Labour.* By THOMAS RADFORD, M.D.

(*Medical Gazette*, April 4, 1851.)

[The author of this paper, of which we give an abstract, is, as our readers are aware, a strenuous advocate of the Cæsarean section; and he therefore naturally rebels against the harsh epithets which have of late been freely bestowed upon this operation. After alluding to the opinions of some of his opponents, Dr. Radford continues:—]

Many cases of protracted labour, from distortion of the pelvis, have frequently occurred in my practice, some of which have terminated naturally, some by the forceps, others required craniotomy; five of these required the Cæsarean section; which are quite sufficient for me to judge of the contingent circumstances which happened during and after the operation, and authorize me to state, whether harsh terms are warrantable. It is not invariably destructive, as in two out of five cases both mother and infant were saved; it is not a cruel and inhuman operation, because it has been in every case undertaken with the most humane and sympathizing feelings, and with the hopes of rescuing the unfortunate creature from long suffering and impending destruction; it is not a barbarous procedure, being recognised by the best obstetric writers, in all civilized countries, as the only available recourse to meet the extreme difficulty of such cases; it is not a bloody operation, for in none of these cases was there much blood lost; it is more terrible, horrible, and dreadful to the witnesses of the operation, than to the poor suffering woman herself; she hails with joy any plan which promises to terminate the anguish she has so long endured. It cannot be murderous; to be so, it requires "malice prepense" on the part of the operator; on the contrary, it is done to save two lives. Such an epithet is more appropriate for the crotchet operation. We agree to say it is an undesirable operation; and we hope no man is so wanting in moral principle as to desire such a case to happen in order to gratify his "rage for cruel and bloody operations." The justice and necessity of this operation will be proved in the course of this paper.

A very eminent obstetric practitioner has lately remarked that he is fully satisfied that if in great distortion of the pelvis abortion or the induction of premature labour were had recourse to at the proper season, no case could occur in which the Cæsarean operation could be required. Craniotomy or embryulcia are said to be equal to the delivery of some if not all cases of distortions of the pelvis in which the Cæsarean section has been performed.

These several methods, which are recommended to supersede this procedure, do not all stand on the same moral and professional grounds. The induction of abortion, and the induction of premature labour, are considered equal to prevent the Cæsarean operation ever being required, even in the most distorted pelvis. Under such circumstances we are recommended to adopt this practice; nay, I should think, from the tone of the author, either the one or the other procedure must be had recourse to, if the practitioner desires to discharge his duty to his patient. This injunction is not alone confined to those cases with which the practitioner must of necessity be acquainted,—at least, that there positively exists a considerable diminution in the pelvic diameters, from his experience in former labours; but it is considered that this practice is applicable, and ought to be adopted, under such circumstances, in first labours.

These statements naturally suggest to the mind an important question,—whether there are any certain indications of the existence of extreme pelvic deformity, during the early period of a first pregnancy, which demand manual examination. The pelvis may be extremely deformed in early life by rickets, and although the disease has been arrested, yet the mischief inflicted upon its bones continues, and its diminished diameters bear the same relative proportion to its present degree of development which they did to that at an earlier period. In such a case, extreme distortion of the pelvis may exist, through the whole period of life, without the slightest external evidence, either in its bones or other portions of the osseous system; and, therefore, this state can only be ascertained when labour has commenced. Internal exostosis may grow from any of the

bones of the pelvis, without a suspicion that such a disease exists. These tumours acquire different sizes; sometimes they become so large, and diminish the pelvic diameter so much, as to render the Cæsarean section necessary: and yet, until labour has happened, there were no external marks, which showed that so serious an internal impediment to the progress of the child had previously existed. (Vide case of Cæsarean operation, by Dr. M'Kibbin; *Ed. Med. and Surg. Journal*, vol. xxxv.)

Fracture of any of the bones of the pelvis may occur at any period of life; and when they are united, either its inlet, outlet, or cavity may be very considerably diminished in their measurement. If pregnancy takes place after such an accident, the Cæsarean section may be the only means by which delivery can be effected. This happened in Mr. Barlow's case; and although there was here external evidence that great mischief had been done to the pelvis, yet there was no alternative for this operation; for neither of the obstetricians were acquainted with the pregnancy until called in after the labour had lasted for a considerable length of time; a midwife had been employed in the first instance. But in other cases of this kind of accident which may take place in early life, no external traces of injury may exist, and the occurrence may not be communicated to the attendant, either from the patient having forgotten it, or not considering it of importance to make it known to him.

Mollities ossium, as its name implies, is a softening of the bones, and may attack any portion of the osseous system; but the pelvis most generally suffers from its ravages, which produce every degree of distortion.

This disease is usually progressive, and sometimes remains stationary, except during pregnancy, when it rapidly increases. It very seldom (yet it sometimes) happens that the distortion of the pelvis is so great in a first labour as to require either craniotomy or the Cæsarean section for delivery. The usual course of this malady is to produce an additional degree of mischief during each succeeding pregnancy, thereby rendering necessary a different plan of delivery in each succeeding labour. The obstetrician may, and ought, to avail himself of the knowledge he has had the opportunity of practically acquiring of the degree of distortion at any previous labour, to bring it to bear on, and to guide, his judgment as to what method should be pursued during the succeeding pregnancy or labour. An accurate inquiry during one labour, with a careful examination of the pelvis in the early months of the next pregnancy, will be all-sufficient to direct him in his treatment of the case. In a first pregnancy he has not this information, and, therefore, he stands in a very different position in regard to his professional responsibility. Extreme distortion of the pelvis from mollities ossium may exist, and yet every other bone may be free from disease. The pelvis, in Sir C. Bell's case, was extremely distorted; but the skeleton was of average height, and the bones, especially the thigh-bones, were firm and of full size.

It is true the general health suffers in a greater or less degree during the progress of this disease, and pains like those of rheumatism are felt about the hips and lower part of the back, and the patient's gait becomes different and her stature becomes less.

If a woman, for the first time pregnant, applies for professional attendance in her approaching labour, at the fifth, sixth, or seventh month, and on inquiry she complains of the pains above mentioned, and the other effects of the disease are to be observed, then there can be no doubt as to the wisdom of making an internal manual examination of the pelvis; but in many cases such an application is not made until a later period of pregnancy, and frequently even then no statement of local pains is made to the practitioner. He may be a stranger to her, and unacquainted with her former gait or stature, and he must, therefore, be unable to make a comparison of her present with her previous state. Women in the lower ranks of life usually employ midwives, and therefore medical gentlemen are seldom or ever consulted until the labour has continued for some time, when some serious impediment to its advance is found to exist. From the previous remarks, it is quite obvious, that no knowledge of the existence of extreme distortion can be acquired in many of such cases, until after the commencement of labour, when suitable measures for delivery can only then be determined on.

But even in cases in which this knowledge may be, or has been obtained, there is no alternative for the Cæsarean section.

A question will no doubt arise in the minds of those who have not had to manage labour obstructed by distortion of the pelvis—Cannot a manual examination of the pelvic diameters be made with such mathematical accuracy, and a decided opinion formed whether the child's head will pass through it?

An accurate exploration of the pelvis is at all times of the greatest practical importance; but, notwithstanding the best endeavours are used precisely to ascertain its capacity, there is great danger of an erroneous computation, especially when it is distorted. The manual difficulties are great under all these circumstances, but are more so when the brim has assumed the triangular shape. The examination should not be confined to the brim-cavity or outlet; but the measurement of every division of it must, as far as possible, be accurately obtained. When it is intended to induce premature labour, we should compute the pelvic space, in relation to the size of the fœtal head, at the period of pregnancy of which the operation is to be done. So when craniotomy is decided on (as a rule of British practice), the space must be relatively considered; and, at the same time, it must be remembered that the reduction of the fœtal head cannot be effected beyond certain limits.

*Abortion.*—The induction of abortion is one of the operations proposed to prevent the necessity of the Cæsarean section; but, in the opinion of the writer, it can only be justifiable to have recourse to it in a first pregnancy.

But it is not alone on moral grounds that this procedure is considered inadequate to meet such a proposition. It is physically impossible safely to perform this operation in most of the cases of extreme distortion of the pelvis, especially in those which have a triangular-shaped brim.

An experienced practitioner unsuccessfully attempted to destroy the ovum. The woman afterwards died. The pelvis is in my possession, and is an example of the highest degree of distortion from *mollities ossium* which was ever presented to my notice.

Other cases of a similar description are on record in which the same results happened. Medicines have been administered to produce abortion in these cases, but the practice is unwarrantable and dangerous. One woman died after taking *secale cornutum*, but in her case an instrument had been first used. Mrs. Sankey, one of the women already mentioned, who recovered after the Cæsarean operation, became again pregnant. She took, by the direction of her medical attendant, the *secale cornutum* and *infus. sabinæ*, for the purpose of inducing abortion, but it is said they failed to produce it. In more than a month after its discontinuance, she aborted a two months' fœtus; the placenta was retained; *secale cornut.* was given; on the third day it was reached by the finger and extracted. She died in about five days after the expulsion of the fœtus.

*Premature labour.*—Premature labour is to be induced, not so much for the purpose of superseding the necessity of the Cæsarean operation, as it is to prevent the use of the murderous instruments, the perforator and crotchet. Whenever the pelvis is so much distorted as to prevent the passage of a full-grown infant without the aid of craniotomy, but will permit one that is premature and viable, this operation must be performed before the end of pregnancy. The longer gestation is allowed to proceed without interruption, the greater chance is afforded to the child to live; but the period at which labour ought to be induced, must depend on the degree of distortion of the pelvis. The great consideration here is the probability of the birth of a viable infant. Most writers assert that it has not the power of maintaining an independent post-partum existence until the seventh month of pregnancy. I venture to differ from this opinion, and do not unconditionally accept this limitation; but I think that a shorter period of intra-uterine life would, in many, if not all cases, enable the infant afterwards to exist. I have known one, not larger than at six months, survive; and another, not more than six months and a half when born, lived to be ten years of age. Cases are recorded of viable infants born at the above-mentioned periods.

The performance of this operation is justifiable on moral grounds, and it is

sanctioned by every professional and social principle. Its object is noble; it saves a life which must otherwise be destroyed; and, at the same time, the woman incurs not much—from my own experience, I can say no more—risks than those which are contingent on ordinary parturition. But, notwithstanding the high value of this operation, it is not warrantable unnecessarily to have recourse to it. Errors (as already stated) in computing the pelvic space may be made. This opinion is corroborated by a case which occurred in the practice of the late Dr. James Hamilton, briefly related by me in 'Prov. Med. and Surg. Journal,' vol. ii. 1847, p. 404.

*Craniotomy.*—It has been asserted that delivery can be accomplished by the use of the perforator and crotchet in all cases of extreme distortion of the pelvis. The following remarks will prove that this statement is not borne out by facts. In some cases of this kind the head could only just be reached, and with great difficulty (to say nothing of the danger) perforated. But this done, the power of the operators ended; all further efforts made to reduce and extract it completely failed.—“Awful catastrophe!”

A consultation was held on the case of a poor woman in labour. Most of those present were Anti-Cæsareanists, and therefore they decided on craniotomy. The head was, with great risk, just opened with the perforator; but every other effort made to deliver this poor suffering creature was unavailing. She was allowed to endure the anguish of parturient pains until the uterus ruptured, and death terminated her agony. The pelvis was greatly distorted by mollities ossium, especially the outlet; and there is no doubt in my mind an erroneous and partial measurement had been made; most likely the brim had been only attentively examined. A cast of the pelvis is in my possession.

In one case, after the head of the infant had been perforated, the Cæsarean section was performed, and it was extracted half murdered.—“Awful catastrophe!”

In another case, after mutilation by embryotomy, the infant was extracted by the Cæsarean section.—“Awful catastrophe!”

Others of a like nature are to be found on record.

In many of the women who have undergone the Cæsarean section, neither the os uteri or the presentation of the infant could be felt. Under such circumstances, how could craniotomy be done? This is the only operation recognised and justified by the British profession which is undertaken with the intention of destroying life. It is only between the value of craniotomy and the Cæsarean section that a comparison need be made. I have been anxious to undertake this important inquiry; and, as statistic deductions are so much in vogue at the present day, I put out a letter in the “Provincial Medical and Surgical Journal,” October 17th, 1849, requesting the members of the Association to kindly send me a statement of all the cases of craniotomy which had happened in each of their practices. But sorry am I to say, only three or four gentlemen have had the candour to communicate information on this subject. It has been said that the statistics of Cæsarean section are worthless; but how, I cannot understand. Those of craniotomy are completely valueless; hundreds of such cases have been silently consigned to the grave.

Instead of trying to explode the Cæsarean section (as now practised in Great Britain), which the foregoing observations prove cannot be done, we ought rather to extend its adoption. I stand fearlessly forward as an advocate for its performance, not only when the woman cannot be delivered by craniotomy, but also in other cases.

I consider that the Cæsarean section should be approved as an operation of election, and not as it now is, one of necessity; and that craniotomy ought to be received in the reverse order.

#### ART. 84.—On the Pathology and Treatment of Puerperal Insanity.

By F. W. MACKENZIE, M. D.

(*London Journal of Medicine*, June, 1851.)

[The object of the present communication is to point out the frequent connexion of puerperal insanity with an anæmic condition of the system. The

author after some general observations in reference to this point gives the following account of the symptoms of this disease:]

*Symptoms.*—When mania occurs during the puerperal state, its accession is, in some instances, sudden, as where some violent mental emotion has been the exciting cause; but more frequently it is otherwise, and it is ushered in by certain premonitory symptoms. Of these, one of the most frequent is restlessness or sleeplessness at night, a symptom which almost invariably precedes the full development of the disease. The patient at the same time is often excitable during the day, and evinces some peculiarity or other. She may express herself as feeling unusually happy, or otherwise; there may be a degree of vivacity about her which is unaccustomed; or, on the other hand, she may be excessively reserved. One patient will be constantly talking, while another will be sullen and taciturn, and there is often some strange fancy or idea upon which she more particularly dwells. The pulse at this time is generally quick; but it is weak and easy of compression, and although the head may be hot and the countenance flushed, the extremities, and especially the feet and hands, are either cold or below the average temperature. Up to this period the patient appears to be rather eccentric than mad; she is easily managed, and readily does what she is advised; but after a time she becomes more positive, more impatient of contradiction, and at length violent and unruly. Her nights are now passed without any sleep, her countenance is flushed and excited, her head hot, and her eyes suffused. The tongue is mostly furred and dry, but it may be clean or covered with a slimy mucus; the breath is often offensive, more especially in the morning; the bowels are torpid, the stools unhealthy, and the urine scanty. With the development of these symptoms the delirium rapidly increases, and the case, so far as the cerebral disorder is concerned, presents very little difference from that of ordinary mania. The state of the circulation is, however, still peculiar; the pulse continues weak and quick, the extremities are cold and clammy, and the patient, unless excited, evidently suffers from prostration.

The progress and termination of the attack may vary. It may terminate in spontaneous recovery, or it may be followed by protracted insanity, and in some instances, may prove fatal. When such is the case, the *post-mortem* appearances are generally of a negative character.

*Pathology.*—[The author expresses his opinion that the origin of this disease is connected with a defective condition of the blood, and quotes Gooch, M'Clinstock and Hardy in corroboration of its truth. He also mentions a case by Abercrombie, which had been treated as meningitis, but recovered under the use of stimulants. He then proceeds to say:]

"The cases which have come under my own observation have appeared to be essentially similar to those related, and to have originated remotely, and principally, in a defective condition of the blood. In all, anæmia had existed concurrently with the attack, as well as antecedently to it. In one patient, with whose previous history I was well acquainted, it had existed during the greater part of pregnancy, and was probably the sole cause of the mania. In another it was apparent when the patient was suffering from the malady, which disappeared under treatment calculated to improve the general health. But it reappeared some months subsequently, not as the effect of child-bearing or its consequences, but as the result of a return of bad health, and an impoverished state of the blood. Many cases of this form of mania have been admitted, during the last three years, into the Paddington Infirmary, in females who had been suckling their children under circumstances of much privation: in all of them, anæmia existed in a marked manner, and the intensity of the cerebral disorder, as well as the danger, was found to be proportionate to the degree in which the blood had been impoverished.

"That this condition of blood should favour the occurrence of puerperal insanity, would appear probable from many circumstances. In the first place, it is obvious that for the healthy performance of the functions of the brain, it is necessary that there should be a due supply of healthy arterial blood, and that this supply cannot be diminished in quantity or deteriorated without disorder.

That the brain is an organ receiving a very great supply of blood; that its vessels are large and numerous; that an increased determination of blood to it, or, on the contrary, a diminution of the quantity conveyed to it, must have an effect upon the cerebral functions; and that the perfect or imperfect state of the intellectual and nervous powers is intimately dependent upon the condition of the circulation within the head, are facts of which no doubt can be entertained. Hence, amongst the frequent consequences of anæmia, may be mentioned an extremely irritable condition of the brain and nervous system. In some cases, this amounts to actual disorder; in others, to a susceptibility, which only requires some casual circumstance to develop into positive disease. Thus, in puerperal patients, when greatly anæmiated, mania may occur as the result of the mere shock and consequences of labour. But when the blood is less impoverished, additional disturbing causes may be necessary; and those which would produce it in a puerperal patient, are similar to those which would occasion it in the non-puerperal state. Of these, mental agitation, shock, or emotion, loss of blood, and irritations of various organs reflected upon the sensorium, particularly of the stomach, liver, and intestines, are the most potential; and the cerebral disorder induced by these anæmiated non-puerperal persons, is precisely similar to the mania of the puerperal state."

In the second place, the general symptoms attending puerperal mania, are identical with those which are met with in anæmia. The brain and nervous system, it is true, are in a state of extreme excitement; but the condition of the patient generally is one of weakness and exhaustion. The pulse is small and quick; the extremities cold; and the excitement has been truly characterized as "action without power." Moreover, in all the cases which I have seen, loud continuous murmurs were heard over the cervical veins, as well as those cardiac sounds, which are indicative of an attenuated state of the blood.

In the third place, the progress of the disease does not materially differ from various cerebral affections, which are occasionally met with in anæmiated patients; and whilst in each the tendency under favourable circumstances is to recovery, in either the reverse may happen from very similar causes. Thus, in either, congestion of the brain may occur from feebleness or irregularity of the circulation; and, consequent upon this, effusion may take place, leading to a fatal termination. When, again, the malady is protracted, various organic changes may be induced to the brain and its membranes; and these may give rise to permanent insanity, epilepsy, or paralysis.

*Treatment.*—[In the treatment of puerperal insanity, the author speaks of the importance of endeavouring to prevent the attack by obviating causes of anæmia previous to and during labour, also by preventing shocks to the nervous system. The curative treatment is directed to the following points:—]

First. The removal of any exciting causes which may exist, and of any bodily derangement which may have been instrumental in the causation of the disease.

Secondly. The subduing of cerebral excitement, and the restoration of tranquillity to the nervous system generally.

Thirdly. Guarding against the occurrence of congestion, effusion, or other disease of the brain.

Fourthly. Supporting the constitutional powers, restoring the general health, and improving the condition of the blood.

1. The first indication points to the removal of such exciting causes as may have been concerned in the production of the disease. It has been remarked, that these are referable to two heads; the one operating directly upon the mind; the other consisting, for the most part, of various kinds of irritation in remote parts of the body. When mere emotion has been the exciting cause, and no physical disturbance can be discovered, it is probable that a full opiate, together with extreme quietude, and the constant application of ice to the head, may at once overcome the cerebral excitement, and avert any further bad consequences. It must, however, be remembered that opium is contra-indicated, whenever gastro-intestinal irritation exists as a consequence of the presence of crude, unhealthy, or indigested matters in the stomach or intestines. When, therefore, the tongue is furred, the breath unpleasant, the alvine discharges scanty and un-

healthy, as also when the abdomen is tumid and uneasy,—evacuant medicines should precede its administration. If gastric disorder exists in a marked manner, there can be no question as to the advantage and safety of giving an emetic, for the purpose of effecting the direct removal of gastric impurities; and ipecacuanha, with squills with or without the tartrate of antimony, according to the strength or debility of the patient, answers well for this purpose. Full vomiting will generally follow its exhibition; and if solid matters, such as undigested food, be not thrown up, there will often be an evacuation of vitiated, unhealthy secretions, in large quantity, which will be productive of much relief. Having premised this step, the next should be to act upon the liver and bowels, not only for the purpose of carrying off irritating matters, but of promoting secretion from them, as well as elimination. Calomel and jalap combined are extremely efficacious for the purpose, and should be given in full doses; but when they fail, or are otherwise objectionable, I believe that croton-oil, with the watery extract of aloes, and a little Castile soap, will be found of signal service. I have certainly found this to answer well in these cases. It also should be given in decided doses, and repeated every four or six hours, until the necessary evacuations have been obtained. These will generally consist of a number of fetid and unhealthy stools; and, when they have been voided, the symptoms will often manifestly improve, whilst the further management of the case will be considerably simplified.

2. The second indication refers to the necessity of allaying the inordinate cerebral excitement, and of restoring tranquillity to the nervous system generally. These objects will be best attained, the former by the exhibition of tartar emetic in small and frequently repeated doses; the latter by opium, morphia, henbane, or some other narcotic. The tartrate of antimony may be given to the extent of one-sixth or one-eighth of a grain every half hour or hour, until the desired effect is produced; and it is sometimes advantageously combined with small doses of the sulphate of magnesia. Any disposition to vomiting may be obviated by the addition of the hydrocyanic acid; and some have found it useful to add a few drops of the tincture, or sedative solution of opium, to each dose.

The administration of opium, in these cases, requires much caution, and careful consideration of the circumstances. Opium, I would observe, has a twofold action upon the economy; and each is distinct and dissimilar. Upon the functions of animal life it operates as a sedative; upon those of organic life, as a stimulant; and thus, whilst, on the one hand, it lowers inordinate action of the brain and spinal cord, it tends, on the other, to exalt the activity of the vascular and organic functions. Hence, its efficacy is greatest in those cases in which the sanguiferous system is most depleted, and the vital and organic functions are most depressed; and, conversely, its employment is least proper where there is a tendency to vascular fulness, whether general or local, and more especially of the encephalon. In proportion then as the pulse is rapid and weak; in proportion as organic debility prevails, and there is an absence of cerebral congestion or determination,—is its use indicated in this disease; and, whatever may be the intensity of the mental excitement, in such cases it may be given fearlessly and freely. When, however, these conditions do not exist unequivocally, as will happen in the majority of instances, it must be had recourse to more guardedly, and its action modified according to the particular circumstances of each. "Opiates have been given with two intentions," says Denman; "some have merely proposed to soothe and moderate the violence of the disturbance by the frequent repetition of small or moderate doses; others have aimed, by the more liberal use of opium, often repeated, to suppress the irritability altogether. As far as I can judge, the former method is far preferable to the latter; and I think there can be no doubt but that opiates in larger doses, instead of diminishing, add, in no small degree, to the irritability which before existed."\* It is certainly impossible for any one to lay down a rule, applicable to all cases, for the administration of opium, or any other narcotic, in this disease. I have found full doses at bed-time, with

\* Denman. Introduction, &c., Seventh Edition, p. 503.

smaller during the day, to answer well in some instances; and it is sometimes useful to alternate the use of one narcotic with that of another. Tranquillity and sleep are the great desiderata to be attained; and different medicines, and different modes of exhibiting them, will be required in order to attain this end in different cases. It is, however, most necessary to watch the effect of such remedies, and not to push them beyond certain limits, when their efficacy is questionable, merely in deference to popular custom or opinion.

As auxiliary to these measures, the pediluvium, sinapisms to the calves of the legs, and revulsives to the extremities, may often be had recourse to with advantage.

3. The next indication to be attended to, is to guard against the occurrence of congestion, effusion, or other disease of the brain. Such consequences might frequently be anticipated from the extreme cerebral disturbance going on; but, under proper treatment, they are fortunately rare. Nevertheless, the possibility of their occurrence must not be lost sight of; and every precaution should be taken to avert them. The state of the circulation in these cases generally forbids the employment of active measures: general bloodletting is, for the most part, inadmissible, and hence abstraction of blood should be limited to the application of a few leeches to the temples or behind the ears, when circumstances render local depletion necessary; but the constant application of ice to the head, the free use of purgatives, a careful diet, and tartar emetic in contrastimulating doses, is safer practice, and will generally obviate all difficulty on this score.

4. The last indication points to the necessity of sustaining the patient, restoring her general health, and improving the condition of the blood. These are matters of the utmost importance; and, upon their due fulfilment will her recovery mainly depend. The means to be employed for these objects comprise all those measures of diet and regimen which appertain to the treatment of anæmia. The patient should be placed in a large, cool, and well-ventilated apartment; her diet should be carefully attended to, and this, in the early stages of the disease, should consist of light, unstimulating food, administered regularly and frequently, but in small quantities at a time. While there is much heat of skin, a quick pulse, and great excitement, milk, gruel, arrowroot, and sago, or other farinaceous articles, form the best diet. As the excitement and febrile disturbance subside, a little animal food, or fish, may be added; and, if the extremities should become cold, and the pulse very feeble, wine must be given in addition, and this sometimes largely. In severe cases, it will be necessary to check the drain upon the system occasioned by lactation; and for this purpose, evaporating lotions should be applied to the mammæ, whilst the bowels are kept open by saline aperients. In conjunction with these measures, the patient must be kept perfectly tranquil. All interviews with friends and relatives had better be prevented; conversation should be prohibited; and a regular nurse, accustomed to the care and management of the insane, should be in constant attendance. It is unnecessary to add, that so long as the patient is under the influence of any mental delusion, she must be strictly watched, and every thing kept out of her reach, with which she might do injury to herself or others.

Under this system of management, the progress of the case will generally be satisfactory; and, as the general health improves, the mental aberration will disappear. Should it be otherwise, additional measures for the restoration of the health will be necessary. Change of air will prove serviceable, and recourse may be had to tonics in addition to the regimen laid down. Of these, it would be advisable to commence with the mildest,—such as the mineral acids, or some light bitter; and, afterwards, to prescribe the more powerful,—such as quinine, or some of the preparations of iron.



ART. 85.—*On Relaxation of the Symphyses of the Pelvis, and its Treatment.*  
By M. MARTIN.

(*Gazette Médicale and London Journal of Medicine*, Nov. 1851.)

Parturition is sometimes followed by persistent relaxation of the various symphyses of the pelvis. As it commonly arises from the patient leaving the horizontal position too soon, as various sympathetic symptoms accompany it, and as other lesions may coexist with it, it is not surprising that the nature of the affection should have been mistaken, sometimes for engorgement of the neck of the uterus, sometimes for retroversion of that organ. In persons thus affected, standing erect is peculiarly difficult, and sometimes almost impossible. In spite of using crutches, they feel severe pain in the sacral region, with stiffness in the lower limbs. In general, they are obliged to sit down, after making from ten to twelve steps. This exercise frequently, by causing the two surfaces of the symphysis pubis to play against each other, produces an irritation of the tissues surrounding the urethra, and causes pressing and painful attempts at micturition. The ischia and ilia can also be felt with the hand to have an abnormal degree of mobility. If it be remembered, also, that the impediment to walking and standing commenced near the end of pregnancy, it becomes certain that the permanent relaxation of the pelvic symphyses is the cause of all the symptoms.

M. Martin has observed, that if the iliac bones be kept pressed against the sacrum, the power of walking is almost entirely restored. The apparatus which he uses consists of a large steel band, padded on the inside, embracing the whole circumference of the pelvis, passing over the external iliac fossæ, in the space between the crest of the ilium and the great trochanter. One lady, who could not walk twenty steps without being obliged to sit down twice or three times, was enabled in two days to walk about a large garden without aid.

It must be remembered, that the impediment is often trifling, and not always very easy to be recognised.

In one exceptional case, the band could not be left off. M. Martin advised the patient to wear it throughout her next pregnancy; and to remain in bed with it on for two months after her confinement. This was done; and in two years she could easily walk a great distance without it.

ART. 86.—*On the Operation for Vesico-Vaginal Fistula.*  
By Dr. HAYWARD, Philadelphia.

(*Boston Medical and Surgical Journal*, and *Provincial Medical and Surgical Journal*, October 29, 1851.)

[This difficult operation is, according to the author, much facilitated by the following method:]

The patient being previously etherised, the bladder is brought down by introducing a large-sized bougie (one made of whalebone, highly polished, is to be preferred), into the urethra, to the very fundus of the bladder, and carrying the other end up to the pubis. In this way the fistula is readily brought in sight. Its edges can be paired with the scissors or a knife, though usually both these instruments are required; and this part of the operation is much facilitated by holding the edges by means of a double-hook. It is not difficult to dissect up the outer covering from the mucous coat of the bladder to the distance of two or three lines. The needles are then to be passed through the outer covering only, and as many stitches must be introduced as may be found necessary to bring the edges of the fistula in close contact.

Since his first operation the author has used a short needle with the eye near

the point, made to fit to a long handle. The instrument, when the two parts are together, looks not much unlike a tenaculum, though not so much curved, and considerably broader near the point.

As soon as the needle is passed through one side of the fistula, it is immediately seized by a forceps, the handle is withdrawn, and the needle is then carried through. It is to be then again fitted to the handle, and carried through to the other side in the same way. As many stitches as may be thought necessary to bring the parts into close contact can in this way be taken with great ease. One thread of each stitch is to be cut off; it is convenient to leave the other, as it enables the operator and patient to know when the ligatures have separated from the bladder.

A large-sized female catheter is then to be introduced into the bladder, and secured there by means of a T bandage. The patient should be laid on her side, with the upper part of the body somewhat raised, so as to facilitate the flow of water through the catheter. This should be removed at least once in every twenty-four hours, as it is very likely to be obstructed by mucus, coagula of blood, and occasionally by calculous concretions. In three days it is safe to remove it altogether, but then it should be introduced at least once every three hours, for ten or twelve days more, so as to prevent any accumulation of urine in the bladder, and consequent strain on that organ. The diet should consist entirely of liquid, mucilaginous food; such as an infusion of slippery elm, gum Arabic and water, flaxseed tea, arrow-root, and milk and water. This diet, in the author's opinion, should be continued till the ligatures come away.

The bowels should be opened by some mild laxative a few hours before the operation; but it is desirable that they should not be moved again till some days after.

The author states that he has never had any troublesome hemorrhage from the operation, nor any alarming symptoms after it. In some cases the pain has been severe for two or three days, and once or twice it has run down the limb, apparently in the course of the sciatic nerve. When performed in the way that he has recommended, he believes it to be attended with very little, if any, danger, as the bladder is not subjected to any considerable degree of violence, nor any part injured to a great extent.

ART. 87.—*On the Use of Cod Liver Oil in Nursing Sore Mouth.*  
By Dr. JOHN EVANS, (U. S.)

(*North-Western Medical and Surgical Journal*, April 1851.)

The extensive prevalence in the West of a form of disease in women generally attending the period of lactation, which has in consequence acquired the name of "nursing sore mouth," and the general want of satisfactory success in its treatment, have induced the author to give the result of his observations upon its nature and management.

The disease generally affects females of delicate constitution and spare habit, in which the function of assimilation is but imperfectly performed. It not unfrequently makes its appearance in such during the last months of gestation, but much oftener during the period of lactation.

The diagnostic symptoms are a burning sensation in the mouth, as if it had been scalded, which is greatly aggravated by hot drinks, attended at first by but little redness, and followed by small ulcerations upon the tongue and different parts of the buccal cavity. In some cases, instead of these ulcers, there is a diffused redness of the mucous membrane of the mouth. These symptoms are generally attended and often preceded by a burning sensation in the stomach, pyrosis, indigestion, and occasionally vomiting. The bowels are most frequently relaxed, and in some cases an obstinate diarrhœa attends.

The course of the disease is often variable, sometimes for a few days being almost entirely relieved, and again recurring. As has been observed by Prof. Brainard, it is often attended by ulcerations in the vagina and upon the mucous surfaces of the labia, which generally grows worse as the irritation of the mouth subsides, and *vice-versâ*. The wasting of the system often continues, if the child is kept at the breast without the function of nutrition being improved by regimen or treatment, until the patient sinks and dies of marasmus and its attendant local lesions.

Nursing sore mouth is a disease of debility, consequent upon the marasmus produced by imperfect nutrition and the demand upon the system of gestation and lactation, and generally speedily gets well after weaning the child, unless it has continued so long as seriously to have impaired the function of nutrition. Profuse hemorrhages and copious lochial discharges favour its development.

Treatment by a resort to medication, especially mercurial, generally aggravates rather than relieves the disease. Although, in some instances, symptoms may be temporarily palliated by the use of the bitter tonics and astringents, such as nitrate of silver, tannin, &c., the author thinks, in the end, they do more harm than good, as there are few, if any, of this class of remedies that do not, under the circumstances, ultimately act as irritants. The ulcers in the mouth may generally be promptly, but temporarily, relieved, by the application to each of a little pure muriatic acid, applied by dipping a small point of a feather or a pencil in the acid, and touching it to the ulcerated surfaces. Although they speedily heal after this application, others soon make their appearance, unless the general condition of the system is relieved.

In some instances, after having failed to relieve either the diarrhœa or irritation of the mouth by the ordinary means of treating these symptoms in other cases, the author has observed a marked improvement by abandoning medication altogether, and placing the patient upon an animal diet and the free use of mucilaginous drinks.

Observing the influence of cod liver oil in preventing the wasting of the tissues of the body in cases of marasmus, especially from phthisis and tabes mesenterica, it occurred to the author that its influence might be equally beneficial in the disease in question. The diarrhœa and ulcerations of the mucous surfaces being in many cases similar to those produced by the marasmus in those affections. He has accordingly been in the habit of prescribing it, taken in French brandy or malt liquor, as might be found best suited to the taste or most convenient, and generally with the happiest effects. Where the patient can be induced to continue its free use, it has uniformly proved beneficial, and, in most instances, effected a cure. If treatment should fail to relieve the disease, a resort to weaning the child should never be deferred until the patient loses her strength so that she cannot maintain the erect position.

ART. 88.—*Description of a New Forceps for the Removal of Uterine Polypi, by the combined influence of Pressure and Caustic.* By M. M. O'GRADY, M.D., M.R.I.A., Malahide.

(*Dublin Medical Press*, Aug. 20, 1851.)

The difficulties which have occurred to the author in common with the most experienced practitioners, in operating with the instruments ordinarily employed for the extirpation of uterine polypi, induced him to turn his attention to the construction of a forceps by which the operation might be simplified and effectually performed without the necessity of confining the patient to bed, or of exposing her to the risk of being injured by the presence of the double canula in the vagina during the time the ligature takes to cut through the pedicle; or to any of the other disagreeable consequences attending this mode of operation.

Having operated seven times successfully with the instrument hereafter described, without causing the least pain, and without the patients losing a drop of blood during or subsequently to the performance of the operation, Dr. O'Grady is induced to lay a description of it before the profession; he also adds a brief account of two cases, which suggested to him the idea of its construction, and of combining mechanical pressure with the action of nitrate of silver upon these morbid growths. The instrument was made under his immediate directions by Thompson and Co., of Henry street.

The entire length of the forceps is ten inches, and that of the blades, measuring from the pivot to the extremities, five inches and a half, each blade terminating in a semi-tubular chamber, of about half an inch in length, closed and rounded at the extremity, and open at the inner surface, so as to form a groove for the reception of a piece of caustic. Both these chambers having been charged, and the forceps shut, the caustic is completely enclosed; it is thus introduced into the vagina or os uteri with perfect safety. When the blades are separated for the purpose of seizing the object to be operated upon, the caustic can come in contact only with the substance grasped by the forceps. Its action then is two-fold. First, the edges of the caustic chambers break down the vessels of the polypus by compression; and secondly, the caustic decomposes its substance with great rapidity. The forceps is withdrawn as soon as all resistance to its pressure appears to have yielded, and the parts are then washed out with a solution of the carbonate or hydriodate of potash, which decomposes the caustic and prevents its acting on the os or cervix uteri. The patients, with the precautions usually adopted, may safely be permitted to walk or drive out, as if no operation had been performed; at his next visit the operator will find the polypus loose in the vagina, if not already discharged into the night-chair.



## SECT. II.—DISEASES OF CHILDREN.

### ART. 89.—*Memoranda on Auscultation of Infants.*

By Dr. MEREL.

(*Prov. Med. and Surg. Journal*, July 9, 1851.)

[This and the following extracts are taken from an interesting and highly suggestive series of lectures on the diseases of children, now publishing in the above-named Journal:]

The *particularities and difficulties of auscultation* on little children are many:—

1st. The respiration of young children is regularly quick and noisy. This must be allowed for.

2d. There is much propensity to mucous secretion, and as they do not eject it, mucus accumulates, and causes a great many large and fine râles, which veil the

respiratory murmur, and impede us sometimes in perceiving the crepitation in pneumonia, or the rubbing sound (*frottement*) in pleurisy.

3d. Mucous obstruction of a large part of the bronchial tubes sometimes takes place, and prevents the perception of the vesicular murmur. This case we enlighten by percussion, as the sound in mucous obstruction is clear, or but very slightly dull. Nor is there true bronchial respiration in these cases.

4th. A little child's chest is of a small extent, consequently if we auscultate, even at the middle of the chest, our ear is struck by the respiratory sounds of the trachea and of the large bronchial tubes, and there is difficulty in perceiving slighter alterations of the sounds.

5th. The child will neither perform a deep inspiration, which sometimes we need to observe, nor will it speak words at our wish and command; thus, bronchophony, pectoriloquy, and cegophony, are lost from us, we can only hear sometimes the modified sound of the voice during cries.

In order to get a full inspiration, as full as the child can perform it, I find the best plan the following:—I order the child to be taken in the arms of its mother or nurse, in a position which allows auscultation, behind and laterally; then I approach cautiously from behind, and lay one of my hands on the upper part of the abdomen, and exert with it a gradually increased pressure, thus the abdominal viscera pushing the diaphragm upwards, the child exerts its power to overcome this impediment by a more extensive inspiration. If this act is prevented by pleuritic pain, we perceive it by its anxiety or irascible struggle with its trunk and hands, and by moans and cries, as far as they are possible. In this manner we should always assist the physical examination of the organs of the chest. The *percussion*, on the contrary, is the most enlightening means of examination in children. The walls of their chest are thin and flexible, consequently we perceive more immediately the sound of the pulmonary texture, and even its consistence.

If we are aware of the above-mentioned circumstances, by and by, with patience, careful exercise, and intelligent combination to all that we see and hear, and of all that we feel with our percussing fingers, we cannot fail to arrive at a high degree of certainty in this sort of diagnosis.

ART. 90.—*On the Varieties of Alvine Discharges in Children.* By Dr. MERET.

(*Provincial Medical and Surgical Journal*, Aug. 6, 1851.)

[The intestinal discharges mentioned by the author are:]

1. The *yellow* discharge. This is the regular kind of stool in infants. It is a mixture of intestinal secretions with bile. As children advance in age, and begin to take substantial food, the colour of their regular discharge becomes more and more of a light brown colour.

2. The *mucous* discharge. White mucous matter, more or less thick or liquid, and mixed with serum, sometimes with a proportion of bile. This discharge is preceded by but moderate pains, and frequently by no pains at all. It denotes a catarrhus, sub-inflammatory, or irritable state of the intestines, and is almost always of local, and not of sympathetic, origin; in general it is not dangerous, and at its commencement is easily manageable by opiates, warm poultices, and convenient hygiene. If neglected, it becomes pertinacious and severe, and not seldom connected with swelling, softening, or granules of the mucous membrane, or ulceration of the follicles. If stripes of blood are mixed with the mucus, and pain be present, it denotes a higher degree of inflammation, in particular of the follicles. The highest development in this direction constitutes enteritis or colitis (dysentery).

Sometimes we find among the mucus, consistent *plastic concretions* of a more or less tubular shape, similar to those of laryngeal croup, but larger in proportion to the volume of the intestines. This is the strongest degree of the catarrhus process which I might term the *croup of the intestines*. Among the whole num-

ber of my little patients, which may be about 30,000, I met with this discharge perhaps only twenty or thirty times. The discharge is effected with very painful efforts at a stool.

3. *The serous.* In general, after more or less severe pains, the discharge takes place with a certain rigidity and noise, after which the pains lessen or subside. It consists of an abundant quantity of serous liquid, dirty whitish, yellowish, or greenish, as besides mucus, bile is the most common mixture with the serum. The serous diarrhœa is commonly the effect of rheumatism in the peritoneum, in the serous and fibrous membranes, or in the nerves of the intestines. I found in these cases the abdomen very hot. If a great deal of mucus and some blood are mixed with the serum, we may suspect parenchymatous enteritis; if the serous membrane alone enters into the state of acute inflammation, frequently transudation takes place on its free surface.

I have seen cases of profuse serous discharge, in a very short time, even in less than twenty-four hours, produce collapse and death, and in some of these instances necroscopy could not discover an adequate alteration either in the mucous or in the serous membrane.

The serous species of discharge is frequently merely a product of sympathetic secretion. I observed it sometimes connected with large transudations in the chest, and with chronic hydrocephalus.

Speaking in general, serous diarrhœa, if even arising from rheumatism, is more difficult to manage than the mucous. Very minute doses of calomel, with Dover's powder and mustard poultices, are frequently beneficial.

Pure serum, like rice-water, is a less favourable quality than the dirty-white or yellowish. Dark-brown serum frequently denotes a disorder in the portal system, present in some severe gastric or typhoid fevers, but I have seen a similar quality also in chronic affections of the brain, and very frequently in scrofulo-impetiginous children. This is worthy our attention, in particular if eczema or impetigo has disappeared from the head and face. This brown and fetid discharge accompanies sometimes the commencement of chronic hydrocephalus. I treated it successfully, in this last case, with high but very diluted doses of iodide of potash.

4. *The green bilious discharge.* If pure bile, then the voided matter is in general not abundant. In young children it is of a more yellowish than green colour. The essential character of bile is, to be of a *greenish colour* (in infants it is voided green) *at the very moment of its evacuation.* This kind of discharge is very frequently present in acute inflammatory and febrile affections; if dependent upon an affection of the brain, then we may find the colour to be rather brown, and the abdomen retracted. If a similar source produces abundant serous-bilious discharges, then we find the abdomen much collapsed. But I must observe, acute affections of the brain are almost always connected with constipation, only in some cases of chronic hydrocephalus I met with the mentioned diarrhœa. Bilious discharge, as arising from bilious fever, or from derangement of the liver, is rare in young children. In this case the right hypochondrium will be more or less bloated up. We must be careful not to confound the green bilious discharge with the following:

5. *The discharge, like chopped eggs,* mixed with mucus, some clots of bile, and caseous coagula of indigested milk, or other kind of food, accompanied almost always by gripes and flatulence; its smell is disagreeably acid, and the whole matter, some minutes after being discharged and *exposed to the atmosphere, becomes green.* We know not exactly the chemical change which produces this coloration, it seems to be an oxydation of some of the elements. Then the essential character of this discharge is, that it is yellow at first, and becomes green by exposure to the atmosphere, whilst bile is green at the moment it comes out. I shall call this *the acid saburral discharge*, which is the most obvious before the sixth month of age, in particular if the sucking child takes, besides the milk, some farinaceous food. Practitioners commonly prescribe in this case rhubarb, with magnesia. For my part I prefer, in tender infants, to rely more upon a convenient change in the diet, and as a remedy, aromatic frictions of the epigastrium, and internally bicarbonate of soda, dissolved in mint water.

6. *The bloody discharge.* Pure red blood is seldom discharged by children; in some rare cases I have seen half or one table-spoonful come out, as the product of active congestion and hemorrhage. Very frequently, on the contrary, blood is combined with the mucous discharge, and in this case, if it is preceded by pain, without tenderness, it denotes an inflammation in the upper parts of the intestinal tube, at least not near the rectum. Tenesmus signifies that the seat of the inflammation is in the lower parts of the colon, or in the rectum. This form is commonly called *dysentery*, not dangerous, if it is without bilious complication and fever, and if treated in its early stage with Dover's powder, some doses of castor oil, and warm poultices; in a stronger degree leeches at the anus; but if neglected in the commencement, it becomes dangerous to the life of the child. Professor Rokitsansky, of Vienna, describes most exactly what he calls the "dysenteric process," in three gradual degrees of anatomical change. The highest degree, presenting a dirty red and gray marbled surface, with considerable thickening, granulation, and ulceration, I never saw in the tender age. Young children die before this stage is developed.

*Passive hemorrhage* of the intestines very seldom occurs in children. I have seen, however, some cases where, without adequate pain, a considerable quantity of dark thin blood was discharged. Lastly, we have seen in this town, with Mr. Wilson, a case in a child six years old, where, during the course of a gastrotyphoid fever, more than one pint of carbonized blood was discharged in two days. The case recovered. The boy is affected with an enlarged spleen.

Moderate quantities of red blood, discharged without pain, frequently occur, mixed with mucus, and are, without signification, sometimes even connected with the advance of recovery from gastric affections. This is the same case as with epistaxis.

Golding Bird and Simon state, as the result of chemical analysis, that some dark green stools of children owe this colour to blood which has suffered a certain chemical change; but those chemical inquiries are not yet arrived at a satisfactory exactness; we do not even know exactly what kind of green discharges were the subject of these inquiries.

7. *Calomel stools.* Green, more or less thick, or mixed with serum, and in this case more abundant, produced by full doses of calomel. Calomel stools resemble bile, and contain much bile, but they contain also some particular chemical elements which we do not exactly know. In many instances it happens that the calomel diarrhoea commences some days or weeks after the use of mercury, and we must be aware of this, and not confound it with the primary bilious discharge. In the former case the region of the liver is in general softer than in the latter. A clever practitioner will never try to stop directly, and with astringents, a green discharge, whatever be its origin and nature.

Calomel stools sometimes contain blood. After what I have seen in dissection, I incline to attribute this circumstance to a sub-inflammatory state, with superficial erosions of the mucous membrane, which sometimes take place in children after the continued use of calomel.

[The author states that he considers all these qualitative and physical distinctions of the discharges of children as very imperfect outlines of a sketch, which, by farther physical and chemical inquiry can become corrected and perfected.]

#### ART. 91.—On a variety of Infantile Coma.

By HERBERT BARKER, M.D., Bedford.

(*Medical Times*, Oct. 11, 1851.)

Dr. Barker has had his attention directed to a form of infantile coma which has not, in his opinion, been previously described.

*Symptoms.*—Five cases have been observed, and the symptoms and progress of the disease have been similar in all of them. In every case the child was apparently healthy at its birth. With one exception it occurred in children, where

some circumstance or other had rendered it undesirable, or impossible, for them to be nourished at their mothers' breasts, and the attempt had been made to rear them by artificial feeding.

Within a few days after birth, drowsiness comes on, which gradually deepens into profound coma. At first, the periods of sleep are simply prolonged, the infant arousing at intervals and taking the food presented to it readily, and in sufficient quantity. Gradually the child awakes less frequently, and shows less disposition to take food when offered to it, perhaps relapsing into sleep in the very act of feeding. At length the sleepiness becomes so profound that it is impossible to rouse it sufficiently to take more than half a drachm or a drachm of food at a time. Even while being washed and dressed, the child scarcely awakes. The alvine evacuations were too pale in two cases, slightly relaxed in one case, but in the others healthy. The urinary secretion was apparently healthy,—not high-coloured, not suppressed; whether deficient in *urea* has not been ascertained. The surface becomes cool, and there is increasing difficulty in maintaining its warmth, particularly in the extremities. The action of the heart becomes gradually feebler, and slower. The surface of the body and the conjunctiva become deeply tinged with yellow. The respiration gradually becomes slower, and at rarer intervals suspicious. The body emaciates, and the countenance presents a pitched and somewhat anxious appearance. The pupils are slightly dilated. The anterior fontanelle is depressed, and the skin of the forehead sometimes corrugated; in fact, all the signs of inanition are by degrees superadded. The little patient which had previously shown no indications of suffering, occasionally, before the fatal termination, manifests a disposition feebly to whine, particularly on being moved. No enlargement of the abdomen has been observed.

*Causes.*—The cause of the coma would seem to be involved in considerable uncertainty, but, in the cases which have come under the author's observation, he is satisfied that it has not arisen from the administration of any kind of narcotic; in fact, the occasion for such medicines has not existed in any one of the cases. In the case of the last patient, for a slightly relaxed state of the bowels, he prescribed a mild astringent, but studiously avoided any form of opiate, in consequence of the tendency to drowsiness.

The author thinks it is probable that the circulation of bile through the brain may be the cause of the coma; and the fact, that in the cases of recovery the yellow colour of the surface and the coma have disappeared simultaneously, would seem to strengthen this supposition. If this be the cause of the coma, we must still search for the occasion of the derangement of the biliary secretion, and the result of the only successful plan of treatment which he has observed would indicate, that unsuitable food is the primary cause of the mischief.

*Treatment.*—In the first three cases the author tried in succession several medicines, particularly mild laxatives, mercurial alteratives, and stimulants, but without success, the cases terminating fatally within three weeks after birth. The occasional administration of small doses of *spiritus ammoniæ comp.* and two or three drops of brandy diluted with water produced a temporary alleviation of the comatose symptoms; this was but transient, and the stupor returned. From the want of success in these cases he was induced to recommend the trial of a wet nurse in his fourth patient, although from the deep sleep, and from the exhausted condition of the system, there appeared but little chance of benefit. Indeed, at first the child could not be sufficiently roused to take the nipple between its lips, even if it had strength to suck; and the milk was allowed to drop into its mouth directly from the nipple. This was slowly swallowed from time to time, and, after several persevering trials, the child began to suck, at first taking but a very small quantity each time. The colour of the surface gradually but quickly improved, the coma very perceptibly diminished from day to day, and within one week the child was in a state of good health.

In the fifth case, which occurred a few weeks ago, bearing in mind the success in the last instance, he did not allow the artificial feeding to be persisted in so long, but, on the third day from the appearance of the drowsiness, which was daily increasing in intensity, directed a wet nurse to be procured, and had



the satisfaction of observing a speedy subsidence of all the unfavourable symptoms from the moment the child began to suck.

Whatever may be the explanation, the author does not doubt that the unsuitableness of the artificial food is at the root of the mischief in these cases. We know that cases do occasionally present themselves in which artificial feeding, however judiciously it may be pursued, will not suffice to sustain the life of the infant. Whenever the train of symptoms which he has described should present themselves, he strongly recommends a *healthy wet-nurse* to be procured, if possible, as the only reasonable chance for the little patient.

The author also recommends this plan to be pursued, should the same symptoms occur in a child nursed by its mother; the presence of these symptoms would sufficiently indicate that the milk was unsuitable, and justify the change.

ART. 92.—*Successful Treatment of Croup by Cauterisation of the Larynx.*  
By Dr. TOWNSEND.

The author was called to a little girl, *æt.* five years and a half, who had been suddenly seized with croupy breathing shortly before. She was treated with Dover's powder repeatedly during the day, and the room was filled with vapour by immersing heated irons occasionally in a tub of hot water. Cauterisation with nitrate of silver was practised at noon and in the evening without much relief; at twelve P.M., the croupy respiration increasing, the patient was fast sinking from suffocation; the pulse intermittent; the caustic was more effectually applied. Expectoration of a portion of the membrane, an inch in length and half an inch wide, followed in fifteen minutes; relief was immediate; ether was also inhaled with a happy effect, producing a pleasant sleep. Several portions of membrane were expectorated during the night and the following day, and the respiration became natural. No patches of lymph upon the tonsils or fauces were discovered. At this time, seven days from the attack, the patient is playful, with a good appetite. Expectoration purulent and bloody. Has had no return of dyspnoea, but still speaks only in a whisper.

*American Journal of the Medical Sciences*, July 1851.

ART. 93.—*On the Comparative Value of Cochineal, Fumigations with Cherry-laurel Water, the Use of the Vegetable Acids, &c., in the Treatment of Hooping-cough.*  
By Dr. PAVESI.

(*Giornale dell'Accademia Medico-Chirurgica di Torino.*)

In an epidemic of hooping-cough, which prevailed during the entire of the spring of 1850, at Candie (Lomelline), Dr. Pavesi instituted a series of comparative experiments on the value of some of the modes of treatment which have been proposed for this disease. Of 122 children who were under his care, he treated 48 by the ordinary method, 27 by cochineal, 19 by fumigations with cherry-laurel water, 6 by the vegetable acids, and 22 by a mixed treatment. By ordinary treatment Signor Pavesi means treatment according to the indications present; and at first view this would not appear to be the most efficacious method, since of 48 children he lost 10, of whom 6 died of cerebral congestion, 2 of hæmoptysis, and 1 of suffocation. But it is to be observed that, of 48 cases, there were at least 36 extremely severe, in which the author could not venture to employ any of the remedies on which he wished to experiment. In these severe cases Signor Pavesi says, that he has derived benefit from the application of leeches to the chest and bleeding from the arm, but especially from friction with tartar emetic ointment and croton oil over the chest, and blisters between the shoulders, kept open for some time. 27 delicate and intractable children were treated exclusively with cochineal. It is well known that cochi-

neal constitutes a treatment employed from time immemorial in Scotland, and was proposed as specific by Dr. Wachtt, of Vienna. Signor Pavesi prescribed for his little patients the following mixture: cochineal and carbonate of potash, of each, eight grains; sugar, one ounce; water four ounces: mix. A table-spoonful to be taken every two hours. This treatment was employed alone, with the exception of the administration of a purgative when required. The results were satisfactory; not that the disease was arrested in its progress, or even shortened, but the paroxysms were rendered less intense; and whenever the little patients omitted to take their cochineal, the attacks were more frequent and distressing. They all recovered. 19 patients were treated by fumigations with cherry-laurel water. The majority of them were strong, and were severely attacked. They were treated in the manner recommended by M. Brofferio, with whom this plan of treatment originated; viz., the head was held some feet above a heated vessel, into which two table-spoonfuls of distilled laurel-water were poured, the mouth being kept open to receive the vapour. These fumigations were repeated every two hours. Relief was quickly obtained, the paroxysms were mitigated, and disappeared almost entirely at night, while they became less frequent and less fatiguing by day. However, the disease was not shortened in duration, nor did Signor Pavesi ever see it terminated between the sixth and fourteenth day, as M. Brofferio has stated, notwithstanding the pains which he took to remove all the external and internal causes capable of prolonging or aggravating the symptoms. One child only was lost from hæmoptysis, during a fit of coughing. The vegetable acids, were exhibited in six cases only, and with patients who were but slightly affected. They were employed as recommended by Dr. Schmitt, of Hengersberg, and by Geigel. Tamarinds, vinegar, lemonade (*ad libitum*), apple-juice with sugar, and syrup of barberries, were given in quantity according to circumstances. The efficacy of this plan was doubtful, and the disease moreover, lasted six weeks. As to the mixed treatment, it was adopted in cases in which the prolongation of the disease and of its complications rendered it necessary to try different measures. Accordingly, the author lost more patients on this plan than on any other (8 out of 22). In conclusion, the question of the specific treatment of hooping-cough is not perfectly solved, at least as regards the means employed by Signor Pavesi; for it is surprising that this physician did not think of using belladonna, the efficacy of which is at least as well established as that of the remedies he has tried. However, cochineal and fumigations with lauro-cerasus, appear to be remedies not to be despised, and the very simplicity of which justifies their employment in many circumstances in which recourse could not be had to more active treatment.

ART. 94.—*Diagnosis between Infantile Remittent Fever and Hydrocephalus.*

By CHARLES TAYLOR, M.R.C.S.

(*Medical Times*, July 11, 1851.)

It is often an anxious point in infantile pathology to determine whether the cerebral symptoms which may be present in a given case are indicative simply of sympathetic disturbance of the sensorium, or of the series of anatomical changes which characterize the disease known as hydrocephalus. In deciding the question some assistance will be derived from the following summary of the distinctive symptoms in each:

*Remittent Fever.*

Head, slight pain in.

Delirium at night frequent; convulsion rare—sometimes at onset.

Easily aroused.

*Hydrocephalus.*

Head, violent pain in; tossing off; drawn backwards, and bored in pillow.

Delirium seldom; convulsion not early—more towards end of disease; aversion to light and noise.

Roused with difficulty; stertorous

Cry fretful, if any.

Hands usually thrown about bed (Coley).

Countenance heavy and dull; vacant expression, as of fever in adult.

Neither knitting of brows nor pupil of eye affected.

Senses of sight and hearing often dull.

Pulse quick throughout the disease.

Bowels occasionally constipated at first; frequently relaxed.

Motions various; often clayey and deficient in bile; very offensive.

Vomiting occasionally at first, but never continuous.

Pain often in the iliac regions, particularly the right.

Abdomen in advanced stage sometimes tumid.

Appetite mostly destroyed; will not take anything.

Thirst often great from commencement.

Tongue often loaded with yellowish-white fur, in gastric form, and elongated and injected papillæ, giving it a "strawberry appearance;" red, dry, and occasionally brown, in malarial form.

Skin very hot; abdomen hotter than the head; picking of the nostrils, corners of the mouth, &c.

Paroxysms regular; exacerbations towards night, remissions in the morning.

Seldom occurs under three years.

breathing; squinting; paralysis in late stage.

Cry peculiar, sharp and shrill; frequent sighing.

Hands tossed towards head.

Countenance sometimes anxious, sometimes dull.

Knitting of brows; wakefulness; pupil of eye contracted in early stage,—sometimes oscillatory, afterwards dilated.

Senses of sight and hearing often acute in early stage.

Pulse quick, but irregular in its action and force in early stage; often beating of carotids, and pulsation and prominence of fontanelle; pulse afterwards becomes slow, but, on raising the child, again quickened.

Bowels constipated, and very difficult to move.

Motions peculiar and characteristic—dark-green and slimy, like chopped spinach.

Vomiting early in first stage; often very constant, especially on assuming the erect posture or sitting up.

Pain occasionally at hypochondrium.

Abdomen drawn in in advanced stage.

Appetite sometimes good, will take food.

Thirst not great in first stage; often in latter stage great avidity for constant drink.

Tongue white; nothing indicative.

Skin not so hot, afterwards cold; head the hottest part.

Varies in intensity without regularity.

Frequent under the third year; less so after the fifth. More frequent in boys of a scrofulous habit.

ART. 95.—*Treatment of Infantile Remittent Fever.*

By CHARLES TAYLOR, M.R.C.S.

*(Medical Gazette, Aug. 1, 1851.)*

*Treatment.*—The treatment of infantile remittent fever depends on the form which we have to deal with.

(1.) Where there has been evidence of its arising from improper or over feeding, a brisk purgative will be necessary, if the bowels are confined; and for this purpose, calomel, combined with rhubarb or jalap, or by itself, followed by a senna draught, or castor-oil in a younger child, may be given.

After free action of the bowels has been produced, a simple saline mixture, composed of liq. ammon. acetatis, with spirits of nitre, or the solution of nitrate of potass, should be given three times a day. If sickness or nausea are present, the effervescing mixture is preferable, to which a drop of the dilute hydrocyanic acid may be added; generally, however, if there is no nausea, the author gives the sesquicarbonate of soda, in doses of five to ten grains, three times a day in any vehicle. The bowels may be afterwards regulated by a combination of Hyd. c. Cretâ with rhubarb, given occasionally.

In some cases the commencement by an emetic is useful, as by this means we more effectually clear out the entire intestinal canal.

(2.) In the mild form of the disease the preceding plan of treatment may be adopted, with the exception of substituting for the brisk purgative two or three grains of Hyd. c. Cretâ, followed in the morning by a drachm or two of castor oil.

(3.) The acute form, when uncomplicated, does not require anything further in the shape of medicine, as the author believes it is the best rule not to use any active remedies, unless a clear and sufficient indication calls for them.

(4.) When the disease is epidemic, and can be fairly traced to malaria, it will be our first object, as far as possible, to remedy these conditions (remembering that the disease once fairly established cannot be cut short, and our object is to guide the patient safely through it) by having the room well ventilated, clean, cool, and free from extraneous articles of dress; these precautions are equally necessary in all forms of the disease where the character or habits of the patient's friends require it.

The warm bath should be used, about 100 to 110 degrees Fah., and repeated every or every other night; it acts not merely by cleansing the skin and promoting its healthy functions, but also by quieting the nervous system, as frequently the author has seen fractionousness and irritability relieved by it, and a more refreshing sleep follow its use. The soda mixture or the other salines may be given, and, as soon as the tongue becomes clean, a mild bitter, as the infusion of calomba with soda, or quinine may be substituted. Dr. Golding Bird, as soon as the remissions are well marked in this form, gives the disulphate of quina, in two-grain doses, as an anti-periodic remedy; latterly, he has used the sulphate of bebeerine instead of quinine, with, the author believes, much success. Quinine in smaller doses, simply as a tonic, is very useful; perhaps the more strictly malarial is the attack, and in proportion as it is free from gastric disturbance, the more decidedly useful is quinine.

(5.) If obstinate constipation is present, a repetition of the purgative must be had recourse to. Drs. Butter, Pemberton, and Locock, allude to the fact of most powerful and repeated purgatives being required. Pemberton relates the case of a child, aged three years, taking twelve grains of calomel and scammony, and twelve grains of the extract of jalap, but at the same time cautions that they should not be carried to a great length, but merely to remove the contents of the bowels. It is but rare such powerful purgatives are required; and, as Sydenham remarks, we must be careful lest "sæpius ægro non nisi morte medebimur."

(6.) If diarrhœa is present the chalk mixture may be given, to which a small

quantity of syrup of poppies, or one or two drops of the tincture of opium, may be added. If, at the same time, the motions are clayey and deficient in bile, two or three grains of Hyd. c. Cretâ, or the Pulv. Sodæ Compos. of the Guy's Pharmacopœia, in four or six grain doses, may be given every or every other night. When there is pain, increased on pressure, in the iliac regions, or in any part of the abdomen, and the diarrhœa assumes the character of dysentery, repeated hot linseed meal poultices should be applied, and may generally be relied on for relief. The mustard poultice might also be tried in the first instance; and in some few cases it might be advantageous to apply two or three leeches or more, but the author has never found it necessary in his own practice. The Hyd. d. Cretâ. gr.  $\frac{1}{2}$ , or gr. j, with Dover's powder, grs.  $1\frac{1}{2}$  or  $2\frac{1}{2}$ , may be given at bedtime, or repeated twice a day, according to circumstances, together with the chalk mixture. The starch enema, with the addition of half a drachm of syrup of poppies, or four minims of the tincture of opium, is a very useful remedy in these cases.

(7.) In the chronic form, where the secretions are depraved and the appetite bad, the combination of the sulphate of potass with rhubarb is a most useful aperient; and the Mistur. Rhœi Comp. (P. G.),—namely, a combination of rhubarb, soda, and calomba, is often of the greatest service. If a mild mercurial alterative is required, Hyd. c. Cretâ with rhubarb may be given every other night.

Drs. Locock and Willshire speak highly of the mineral tonics in this form of disease. Where stomatitic or apthous ulcerations are present, the chlorate of potass, in five grain doses, three or four times a day, is an admirable remedy, applying also to the part a weak solution of the nitrate of silver, and using a lotion of borate of soda.

(8.) If worms are present, a brisk purgative of calomel and scammony may be given to dislodge the long thread worms, or an enema of lime water for the small thread worm; but, as they depend on the deranged condition of the mucous membrane of the intestines, the object of the treatment will be to remedy that deranged condition, and as it is restored to a more healthy state, and convalescence becomes established, the worms will usually disappear. The compound rhubarb mixture, or the infusion of gentian, may be given two or three times a day.

(9.) For the slight bronchitic symptoms frequently present, the addition of ipecacuanha wine to each dose of the mixture is all that is required. If acute bronchitis or pneumonia should supervene, they must be treated according to general rules. Frequently the indications of circumscribed pneumonia, as shown by dulness and slight crepitation, exist; for them nothing in general is required beyond desiring the nurse to turn the patient frequently. This has been pointed out by Dr. G. Bird, who considers it arising from congestion, and usually vanishes as the patient recovers.

(10.) Should indications of tubercular disease of the mesenteric glands or of phthisis develop themselves, they must be treated accordingly; for the former the liquor potassæ internally, and counter-irritants, as the iodine ointment externally, should be had recourse to; for the latter the author has not much to recommend, except, perhaps, when the stomach will bear it, the regular and continued use of cod-liver oil. In impaired general health, after gastric disturbance with fever, he has seen it of the greatest service.

(11.) The cutaneous affections which sometimes are present require no modification in treatment. The more chronic skin diseases must be treated according to the rules laid down for such disorders: we may remark, however, that they will be chiefly benefited by those means which tend to improve the general health.

(12.) The typhoid form of this disease will require more general support, and ammonia, with the infusion of serpentary, quinine, or ammonia and decoction of bark. Drs. Locock and West speak highly of a mixture of ether and hydrochloric acid (Steiglitz's mixture), but of this the author has had no experience. Wine, beef-tea, arrow-root, animal jellies, will also be required. If the patient gets no sleep, a few grains of Dover's powder may be given at bedtime with great advantage. Care should be taken that the bladder is not allowed to become

distended; if there is retention or involuntary discharge of urine, the catheter should be passed. If bed-sores occur, the liquor plumbi diacetatis may be applied, by means of a camel's hair brush, every morning, and the part dressed with simple cerate, or a weak solution of nitrate of silver (gr. ij to 3j), or sulphate of zinc (gr. iv to 3j), may be used in a similar manner.

(13.) For the sympathetic cerebral symptoms that are usually present, all that is required is to have the hair cut close or shaven, and apply the cold spirit lotion; for, as Dr. G. Bird says, "the delirium and great irritability are part of the disease," and require no active interference. Cheyne, however, recommended antimonials with calomel in those cases of remittent fever where the sensorial functions are much attacked, as also in the commencement of febrile attacks of a less definite nature, which are liable to degenerate into hydrocephalus, and considered that, if more frequently used, the termination in hydrocephalus would be less frequent.

(14.) If symptoms denoting more than functional disturbance of the brain arise,—for instance, pain in the head, constant vomiting, and nausea,—it will be advisable to apply a few leeches, either to the temples or the mastoid processes, and give mercurials, as small doses of calomel or hyd. c. cretâ, two or three times a day, or oftener, if the cerebral symptoms are urgent, avoiding all undue irritation of the bowels; for hydrocephalus, supervening on remittent fever, will not bear the more antiphlogistic remedies required when it arises idiopathically; in short, although the head affection requires our attention more than the original disease, inasmuch as it is more fraught with danger, we must always remember that the patient's health has been, in some measure, exhausted by the previous disease. The cold lotion, or a bladder of ice, should also be applied to the head, the room kept dark, cool, and quiet. If a convulsion should occur, the child may be placed in the warm bath, and, at the same time, a douche of cold water applied to the head. Sinapisms to the soles of the feet or calves of the legs may also be had recourse to.

(15.) When the head symptoms are insidious, and loss of blood contra-indicated, a blister on the nape of the neck, or the application of acetum lyttæ, afterwards dressed with the ung. hydrarg. mitius, should be used, with small doses of mercurials, endeavouring to avoid irritation of the bowels. Among counter-irritants, which are very serviceable in proportion as the symptoms are chronic, is the repeated use of the tartar emetic ointment to the scalp, which is sometimes attended with marked benefit.

(16.) When we consider the cerebral symptoms present depend not on any amount of activity or inflammation, but rather on want of power, denoting what has been termed "hydrancephaloid disease," the remedies before mentioned must on no account be had recourse to, as they would aggravate the mischief, but a few drops of spirits of ammon. fœtida may be given three or four times a day; ammonia in solution, or a small quantity of wine may be required, and the free use of nourishment. In these cases of exhaustion, a grain and a half to two grains of Dover's powder at bedtime, will be found of the greatest service.

(17.) In general, a light diet, as cold water, toast-water, or barley-water, to allay the thirst, thin arrow-root, or milk and water, is all that is required in the simple and acute forms, in the early stage of the disease; afterwards beef-tea, veal, mutton-broth, light animal jellies, isinglass dissolved in milk and water, may be given: in the typhoid form they are required earlier, and in a more nutritious state,—the addition of wine to the jelly, or diluted with water, to the amount of one, two, or more ounces in the day. By degrees, light bread pudding, bread and milk, fish, may be given; but the return to ordinary diet should be postponed for some time, as relapses are sometimes produced by it or the patient rising too soon from his bed and mixing with the other members of his family.

(18.) As the patient improves, nothing tends so much to restore his general health and strength as a change of air, particularly sea air; and in fact, when the disease has arisen, as it most usually does, from malaria, or general endemic causes, this change should be had recourse to earlier, as it not only affords means for the recovery of health, but also removes the child from the direct source of disease.



# REPORTS

ON THE

## PROGRESS OF THE MEDICAL SCIENCES.

*July—December 1851.*

PART XIV.

12



THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

## I.

# REPORT ON THE PROGRESS OF PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

---

### *Bibliography.*

THE contributions to Practical Medicine in the shape of distinct treatises, since the publication of our last volume, have not been numerous. The following only have reached us, and will be noticed in their proper places:—

I. *A History of Epidemic Pestilences from the earliest ages; with researches into their Nature, Causes, and Prophylaxis.* By WILLIAM BASCOMB, M. D.

II. *A Practical Treatise on the Management of Diseases of the Heart, &c. With especial reference to the Treatment of those Diseases in India.* By NORMAN CHEEVERS, M. D.

III. *A Practical Treatise on the Diseases of the Lungs and Heart, including the Principles of Physical Diagnosis.* By WALTER HAYLE WALSH, M. D., &c.

IV. *On Diseases of the Mucous Membrane of the Throat.* By W. WAGSTAFF, M. A., M. D.

V. *On Gout; its History and Causes, and its Cure.* By WM. GAIRDNER, M. D. 2d Edition.

---

## PART I.—GENERAL PATHOLOGY.

### § I.—*Causes of Disease.*

1. THE ardour with which investigations into the modes of origin and propagation of disease is undertaken, is a feature of the present age, and almost exclusively of this country. Difficult as the inquiry is, it has already been productive of the most beneficial results, and it gives to what is termed the sanitary movement a degree of importance second to none of human endeavours to ameliorate the human race. How much of disease is to be attributed to neglect of hygienic precautions, and how readily such sources of pestilence can be removed, is only to be comprehended by a reference to the labours undertaken under the superintendence of the Public Health Act; some documents of which are now before us.

The above remarks are especially verified in a report by Mr. LEE,\* on the sanitary condition of certain towns and cities in this kingdom, in which we find a large amount of most essential information. The inquiries upon which this report is based are numerous, and have been submitted generally to the medical officers connected with the pauper practice of the several localities, and therefore to parties of all others the best qualified to arrive at correct conclusions on the subject.

The deductions which Mr. Lee draws from his observations are, that preventible diseases originate, for the most part, in the decomposition of animal

\* Summary of Experience on Disease and Comparative Rates of Mortality, by William Lee, Esq., London, 1861.

and vegetable matter, the fatal effects of which are manifest in country places, and are not confined to places of dense population, as is often erroneously thought. Of all these preventible diseases, typhus, in its various forms, is the most extended in its operations, as well as the most fatal. It is, he believes, quite independent of geographical positions, climate, or any other uncontrollable circumstances. He also deduces that no appreciable effect would be produced on mortality by particular avocations, were the former causes of disease excluded, and that not more than 11 per thousand deaths arise from strictly inevitable causes.

The report also embraces the sanitary question, in its bearing upon orphanage, poor rates, pauperism, and sick societies.

—A Report by Mr. GRAINGER on the sanitary state of portions of the metropolis, and on the beneficial operation of model lodging-houses, is likewise replete with instructive facts.

2. *Electrical Variation as a Cause of Disease.*—In a series of papers recently published in the "Medical Gazette,"\* Mr. W. CRAIG has most ingeniously, if not conclusively, argued the question of the agency of variations in electrical tension as a cause of disease, referring to this many of the instances in which maladies have been supposed to arise from malaria, cold and wet, &c. He commences by admitting fully the assumption, that the electricity evolved during respiration and assimilation, is the source of nervous power, and that to the maintenance of the due balance of this force is due the maintenance of health. He then inquires into the circumstances which are liable to disturb the equilibrium of human electricity, and determines, that one most effective agent is water in the state of vapour; and he thus explains the presumed effects of malaria, and what in common parlance is termed a chill. As a practical demonstration of, at all events, the remarkable coincidence of disease and low electric tension, he cites a communication respecting cholera, made by M. Andral to the Académie des Sciences. These observations appear to us so important, that we give them at length. Stating that he was in possession of a very powerful electrical machine, M. Andral says:—

"I have remarked that, since the invasion of cholera, I have not been able to produce on any occasion the same effect. Before the invasion of cholera, in ordinary weather, after two or three turns of the wheel, brilliant sparks of five or six centimetres in length were given out. During the months of April and May, the sparks, obtained by great trouble, have never exceeded two or three centimetres, and their variations accorded very nearly with the variations of cholera. This was already for me a strong presumption that I was on the trace of the important fact that I was endeavouring to find. Nevertheless, I was not yet convinced; because one might attribute the fact to the moisture that was in the air, or to the irregularities of the electric machine. Thus I waited with patience the arrival of fine weather, and heat, to continue my observations with more certainty. At last fine weather came, and, to my astonishment, the machine, frequently consulted, far from showing, as it ought to have done, an augmentation of electricity, has given signs less and less sensible, to such a degree that, during the days of the 4th, 5th, and 6th of June, it was impossible to obtain anything but slight cracklings without sparks. On the 7th of June the machine remained quite dumb. This new decrease of the electric fluid has perfectly accorded with the renewed violence of the cholera, as is only too well known. For my own part, I was not more alarmed than astonished; my conviction was complete. At last, on the morning of the 8th, some feeble sparks reappeared, and from that hour the intensity decreased. Towards evening, a storm announced at Paris that the electricity had re-entered its domain; to my eyes, it was the cholera which disappeared with the cause which produced it. The next day I continued my observations; the machine at the least touch rendered with facility some lively sparks." M. Andral goes on to state that, in the six days following the 8th of June, the mortality in Paris fell gradually from 667 to 355.

\* Medical Gazette, Sept. 19, et seq.

As illustrative of the individual effects of withdrawal of electricity as a cause of disease, the author cites the familiar instance of getting wet. In this case, he observes, the wet is converted into moisture, which abstracts electrical force from the surface of the body. If the person be young and vigorous, or by having food in his stomach he generates electricity, he may resist the effects of the loss; but if old and infirm, and no generation of electricity is going on but through the respiration, the nervous power is depressed, and disease of some kind or other arises.

At a further part of his interesting essay, the author considers the most approved methods of avoiding this disturbed balance in electrical tension, such as proper clothing, habitations, and food; he also investigates the action of electricity on vegetable life, and more particularly in reference to the origination of the potato disease; after which he recapitulates his views in the following propositions:—

1st. That heat and electricity are identical, as the one can be converted into the other.

2d. That a large volume of electricity surrounds every primary constituent of matter, especially that form of matter which constitutes the gaseous bodies.

3d. That animal heat is supported by the electricity liberated from the primary constituents of matter during the processes of respiration, digestion, and assimilation.

4th. That electricity is evolved during these processes, on the same principle as that which is evolved during the action of a galvanic arrangement.

5th. That electricity and nervous power are analogous, if not identical; as the action of the one can be successfully substituted for the other.

6th. That the majority of diseases are caused either by the sudden abstraction or slow abduction of electricity from the body.

7th. That a low state of electrical tension on the surface of the earth, produced either by the action of evaporation or some occult movement in the great internal currents of the earth, is the remote cause of epidemic and pestilential diseases.

8th. That occasional and ordinary diseases are produced by the sudden abstraction, or slow abduction of electricity from the body, or by its undue elimination during the vital processes.

9th. That since electricity is so essential to the integrity of the vital operations, it is indispensable to promote its evolution and to prevent over-radiation.

10th. That electricity is the source of vitality in vegetable life, and that by its instrumentality the roots extract nutriment from the soil.

11th. That vegetables of rapid growth require a large supply of electricity; and the potato is of this kind.

12th. That the potato disease is produced by defective nutrition, which arose from defective electric agency, arising from influences which produced low tension of that force.

## § II.—*Diagnosis of Disease,—the Microscope.*

3. We have to notice two pamphlets devoted to the exhibition of the important aid to be derived from microscopical inquiry in the diagnosis of disease. The first of these is by Dr. LYONS, the other by Dr. HUGHES BENNETT.

—Dr. LYONS' publication, which he terms "An Apology for the Microscope," is an introductory lecture delivered in the Dublin School of Medicine. It gives a good historical sketch of the progress of microscopical research, and points out the various circumstances connected with pathological inquiry, in which its aid is all but indispensable.

Dr. BENNETT's clinical lecture\* contains a large amount of practical information respecting the microscope, and its usefulness is further augmented by several woodcuts, some of which we reproduce, illustrating the most serviceable instruments, and the most important microscopic objects, connected with practical medicine.

\* Lectures on Clinical Medicine, by John Hughes Bennett, M.D., F.R.C.S.E. No. 5.



Oberhaeuser's latest model, made at Dr. Bennett's suggestion, for medical men.

On the subject of the instrument itself, Dr. Bennett has the following remarks:—

A microscope may be divided into mechanical and optical parts. One of the best for general use to the physiologist and medical practitioner, is the one of which a cut is given, above, one-fourth the actual size.

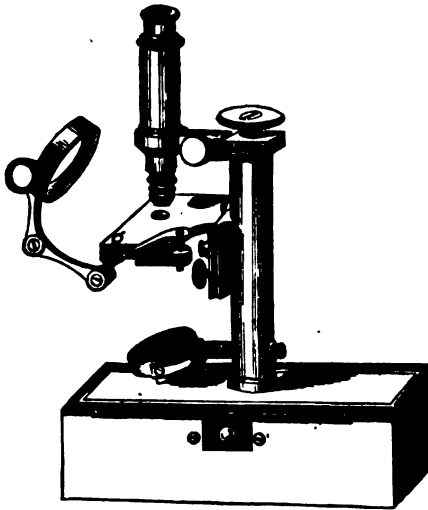
The body consists of a telescope tube eight inches long, held by a split tube three-inches in length. The coarse adjustment is managed by the hand giving it a corkscrew movement; the fine adjustment is accomplished by a screw, which is placed at the lower end of the pillar by which it is supported. The stage is strong and solid, with a circular diaphragm beneath it.

This instrument is said by Dr. Bennett to possess all the requisites of a useful instrument, viz., steadiness, ease of adjustment, and portability.\*

Where portability is a special object, Dr. Bennett recommends a pocket microscope, invented by Dr. Gruby, of Paris. It is contained in a case the size of an ordinary snuff-box, and possesses all the conveniences of larger instruments, including lenses, micrometer, &c. It is accurately delineated in the accompanying woodcut, as mounted for use.

For pocket use and bedside examination, a very ingenious instrument has been designed by Dr. W. T. Gairdner. It consists of a Wollaston's doublet, with a focal distance of one-fifteenth of an inch, and magnifying from 150 to 200 diameters. The lens is fixed in a plano-concave metal dish, attached, as is seen in the woodcut, to a handle. On the plane side is a ring of silver, in which a thin piece of glass is fitted, also supported by a steel handle. The two handles are united by a screw, and the focal distance is regulated by another screw, the use of which either separates the two handles or allows

\* This instrument may be obtained in Paris for 6*l.*, in Edinburgh for 7*l.* 7*s.*, having two object glasses, (Nos. 3 and 7,) two eye pieces, (Nos. 3 and 4,) and in a neat case, with the accessories.



them to remain in apposition. A drop of the fluid to be examined is placed *outside* the glass, either covered or not by another piece of glass; then the instrument is applied to the eye, and directed towards the light. By this simple instrument we may distinguish blood, pus, and other corpuscles, crystals, &c., sufficient to experienced eyes, for diagnosis. By shading the lens externally with the finger, all the effects of a diaphragm are produced.

[We have been favoured, by the liberality of Mr. Bryson, Princes Street, Edinburgh, the maker, with an improved instrument of this kind, (*see* Figs. 1 and 2, p. 184,) which has lenses of two powers, which can be attached at pleasure, and a few supplementary glasses, the whole comprised in a case which will go into the waistcoat pocket. We have carefully tested this instrument, and are so convinced of its usefulness for speedy diagnosis at the bedside, that we willingly urge upon our readers the advantage of possessing it. The instances in which its assistance may be required, need not be mentioned. The price complete in the case is, we believe, 35s.]

The optical portions of the microscope, as described by Dr. Bennett, are the objective, the eye piece, and the methods of illumination.

1. *The Objectives, or Achromatic Lenses.*—This is the portion at the bottom of the tube and next the object to be examined, and is made of various focal lengths. Of these, Dr. Bennett considers the quarter-inch as the most useful for anatomical purposes, or, which is the same, the No. 7 of Oberhaeuser. For low powers, Oberhaeuser's No. 3, or the one-inch lens of the London opticians, is the most generally serviceable. For the higher powers, the London opticians are pre-eminent; we may mention the 1-8th inch by Smith, the 1-12th inch by Ross, and 1-16th inch by Powell. The Parisian lenses are cheapest for their several powers.

2. *The Eye Pieces.*—This is the portion placed at the upper part of the tube next the eye. Its use is to magnify the image of the object transmitted by the lens. Two eye pieces are considered necessary by Dr. Bennett, namely, the 3 and 4 of Oberhaeuser.

3. *Illumination.*—This is accomplished, first by transmitted light; 2, by reflected light; 3, by achromatic light.

Transmitted light is used for transparent objects, and is furnished by a mirror placed at a certain distance below the stage. The best light, according to the author, is that reflected from a white cloud.

Reflected light is used for the examination of opaque objects, and with lenses of low power is obtained unaided; but it is sometimes necessary to condense the rays of light and throw them on the object, which is done by means of a bull's eye lens, fixed in such a manner to the instrument as to be movable in any direction.

Achromatic light, Dr. Bennett states to be only serviceable in examining very delicate objects with higher powers; it is seldom required in medical examinations.

Fig. 1.

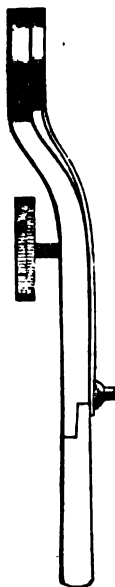


Fig. 2.



Gardner's simple clinical microscope. Fig. 1. a lateral view of the instrument. Fig. 2, a front view, showing in outline the posterior glass separated and turned aside.

In reference to the mode of making microscopic examinations, Dr. Bennett gives the following plain instructions:—

“All that is necessary in examining fluid substances, is to place a drop in the centre of a slip of glass, and letting a smaller and thinner piece of glass fall gently upon it, so as to exclude air-bubbles, place it upon the stage under the objective. In this way, the fluid substance will be diffused equally over a flat surface, and evaporation prevented, which would dim the objective. The illumination must now be carefully arranged, and the focus obtained, first by means of the coarse, and then by means of the fine, adjustment. It will save much time, in examining structures, to employ always, at one sitting, the same slip of glass, as it is easier to clean these with a towel, after dipping them in water, than to be perpetually shifting the coarse adjustment.

“The action of water, acetic acid, and other reagents on the particles contained in the fluid, may be observed by adding them to another drop before covering with the upper glass; or, when this is done, a drop of the reagent may be placed at the edge of the upper glass, when it will be diffused through the fluid under examination by imbibition.

“The mode of demonstrating solid substances will vary according as they are soft or hard, cellular or fibrous, &c. &c. The structure of a soft tissue, such as the kidney, skin, cartilage, &c., is determined, by making very minute,

thin, and transparent slices of it in various directions, by means of a sharp knife or razor. These sections should be laid upon a slip of glass, then covered over, and slightly pressed flat, by means of an upper one. The addition of a drop of water renders the parts more clear, and facilitates the examination, although it should never be forgotten that most cell-structures are thereby enlarged or altered in shape from endosmosis. Acid and other reagents may be applied in like manner. The double-bladed knife of Valentin will enable you to obtain large, thin, and equable sections of such tissues, and permit you to see the manner in which the various elements they contain are arranged with regard to each other. Harder tissues, such as wood, horn, indurated cuticle, &c., may be examined by small thin sections, made in the same way. Very dense tissue, such as bone, teeth, shell, &c., require to be cut into thin sections, and afterwards ground down to the necessary thinness. Preparations of this kind are now manufactured on a large scale, and may be obtained at a trifling cost. A cellular parenchymatous structure, such as the liver, may be examined by crushing a minute portion between two glasses. If it be membranous, as the cuticle of plants, epithelial layers, &c., the membrane should be carefully laid flat upon the lower glass, and covered with an upper one. A fibrous structure, such as the areolar, elastic, muscular, and nervous tissues, must be separated by means of needles, and then spread out into a thin layer before examination, with or without water, &c."

The second portion of the Clinical Lecture, from which the preceding remarks have been extracted, is taken up with the principal applications of the microscope to diagnosis; in aid of which accurate descriptions, both verbal and graphic, are given of the various products, fluid and solid, which it is necessary to be acquainted with. The author commences with the—

*Saliva.*—This will be seen to contain salivary corpuscles, epithelial scales, and molecules or granules. The former are colourless spherical bodies, varying from 1-3000th to 1-1800th of an inch in diameter, and containing a nucleus and molecules. The former is rendered distinct by acetic acid. The epithelial scales are flattish cells of various sizes, and irregular outline, also containing a nucleus.

In disease of the mouth, the saliva undergoes changes. Ulcers induce an increase of molecular matter. Confervoid growths are also to be met with, especially in the sordes of fever. The *muguet* of infants also exhibits confervoid filaments. In canceroid or epithelial cancer of the tongue, the epithelial scales often exhibit a fringe of fibrils.

*Milk*, when healthy, exhibits a number of globules of various size, up to the 1-3000th of an inch, and perfectly spherical, rolling about in a clear fluid. They dissolve in excess of ether; and aggregate in masses when acetic acid is added, the caseous fluid in which they swim being at the same time coagulated. The globules consist of an albuminous envelope enclosing oil or butter.

The richness of milk is determined by the quantity of these globules—but Dr. Bennett notices that a correct appreciation of the quality of milk by the microscope can only be taken by an experienced observer.

The colostrum contains, in addition to the globules, compound granular bodies, which in the human female should disappear on the third or fourth day after parturition. Pus and blood are detected in milk by their distinctive characters.

*Blood* contains two principal microscopic elements; the coloured blood disk and the colourless corpuscle. The former are biconcave disks, having a tendency to arrange themselves in rolls like rouleaux of coins. They vary in size from 1-5000th to 1-3000th of an inch, and show either a bright external rim with a dark centre, or the reverse, according to the focal point at which they are viewed. They alter in shape from exosmosis, becoming irregular, notched, and serrated in outline, if the blood be exposed to the air a little time before examination. On the addition of water they become spherical; they dissolve in strong acetic acid.

The colourless corpuscle is spherical, and of 1-2000th of an inch in size. Acetic acid renders them transparent; they are not numerous in healthy blood,



but become so in certain diseased conditions associated with enlarged spleen, to which Dr. Bennett has given the term "Leucocythæmia."

In inspissated highly fibrinised blood, the blood disks are sometimes so crowded as to assume a caudate shape. They also break down in certain hemorrhages. With these exceptions, Dr. Bennett thinks that microscopic examination of the blood in disease does not assist materially in diagnosis.

The two subjoined cuts show the appearance of healthy blood, and blood with a preponderance of white corpuscles:—

Fig. 1.



Fig. 2.



Fig. 1. Appearance of healthy blood.

Fig. 2. Blood in leucocythæmia.

**Pus.**—The pus globule is globular, with smooth margin and fine granular surface; the size is  $\frac{1}{150}$ th to  $\frac{1}{100}$ th of an inch. They contain a nucleus which is rendered visible by the addition of water. Strong acetic acid dissolves the cell wall, and liberates the nucleus in one or more divisions, each having a central spot; weak acid renders it visible without destroying the cell. In scrofulous pus and in gangrenous sores, the pus cell is irregular in shape.

Fig. 3.

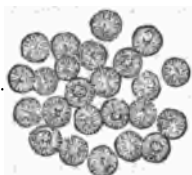


Fig. 4.



Fig. 5.

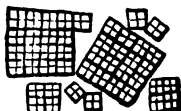


Fig. 3. Healthy pus corpuscles. 4. The same after the addition of acetic acid.  
5. Corpuscles in scrofulous pus.

**Sputum.**—The examination of the sputum requires extensive acquaintance with microscopic objects. Dr. Bennett has found contained in it all the tissues which enter into the composition of the lung, as filament, epithelium blood corpuscles, &c., mucus, pus cells, tubercle corpuscles, granules and amorphous matter, pigmentary deposits, and parasitic vegetation, as well as all the varieties of matter derived from food. He does not regard examination of the sputum, therefore, as of much value in diagnosis.

**Vomited Matters.**—Among the various microscopic objects presented by vomited matters, irrespective of the food and epithelial scales, Dr. Bennett mentions the peculiar bodies discovered in the rice water ejections, of which we have given a woodcut in a former volume; also different varieties of torulæ, especially that described by Goodsir under the name of *sarcina ventriculi*, and of which mention is made in the present volume, Art. 23.

Fig. 6.



Sarcina ventriculi.

These bodies consist, as is seen in the accompanying illustration, of square bundles, whence their name.

**Uterine and Vaginal Discharges.**—Dr. Bennett entertains a hope that many useful results may follow a more extended examination of these products. The menstrual discharge contains blood globules, and young and old epithelial

scales. Leucorrhœal discharges always consist of epithelial cells, more or less loaded with fat and pus globules. The gelatinous discharge from the glands of Nabothii contains round or oval epithelial cells, which, on the addition of acetic acid, are seen to contain nuclei. The various morbid growths have their special characteristics.

*Dropsical Fluids* sometimes present peculiarities thus: Spermatozoa are sometimes found in the fluid of hydrocele. In ascites, the fluid contains a few epithelium cells and blood globules. In ovarian dropsy, various products are found, as pus and blood corpuscles, epithelial cells, colloid or cancer cells, fatty granules, and flat plates of cholesterine.

*The Urine.*—To examine the deposits found in urine, the supernatant fluid should be poured off, and some of the deposit placed in the field of the microscope. The principal salts to be seen, are—

1. *Uric Acid.*—These crystals are coloured, varying from light fawn to deep orange red. Their forms are various, but most commonly rhomboidal; other forms are lozenge-shaped and square, or flat scales with longitudinal marks.

2. *Urate of Ammonia* usually appears in amorphous masses of molecular and granular particles; it also assumes the stellate form.

3. *The Triple Phosphate* is the most commonly crystalline form met with in the urine. The crystals are triangular, sometimes truncated prisms.

4. *Oxalate of Lime* is met with either as octohedral crystals, or more rarely in the shape of dumbbells.

5. *Cystine* presents flat hexagonal plates, with their surface marked, as if by contact of other similarly shaped crystals. Sometimes the centre is opaque.

In addition to these various salts, the urine presents other important microscopic objects, or different organic products, as blood and pus corpuscles, vegetable fungi, casts of tubes, and epithelial scales. In certain instances the tubular casts are seen to hold oil globules entangled. Until lately all these casts were confounded together, but now they are known to consist of two distinct varieties: 1. Fibrinous or exudation casts (1), commonly found in the urine at critical periods of acute inflammation, especially scarlatina, pneumonia, &c. 2. Casts with oil globules, indicative of Bright's disease (2). These are represented in the accompanying woodcuts:—

Fig. 1.



Fig. 2.



Fig. 1. Exudation cast of uriniferous tube.

2. Cast of a uriniferous tube with oil globules.

Dr. Bennett warns the reader, that various appearances noticed, are only diagnostic when accompanied by concomitant symptoms; alone they are not to be depended upon.

*THE SKIN.*—Dr. Bennett considers that much assistance in the diagnosis of affections of the integument is to be derived from microscopic examination. Thus, healthy granulating sores present normal pus globules and fibre cells; in scrofulous and unhealthy sores, as was above stated, the cell formations are irregular and misshapen. Dr. Bennett examines—1. Cutaneous eruption. 2. Epithelial growths.

1st. *Cutaneous Eruptions.*—In vesicular and pustular diseases, pus formations may be observed in all its stages, commencing as exudation of liquor sanguinis, deposition of molecular matter, and the formation around them of cell-walls. All this may be seen in the eruption formed by tartar emetic.

2d. *Epithelial Growths.*—According to the author, these growths on the skin

may assume three forms: 1. That of Squamous Eruption. 2. That of Tumour. 3. That of Ulcer.

1. *The Squamous Eruptions* are three; psoriasis, pityriasis, and ichthyosi. The incrustations of these consist essentially of aggregated dry epithelial scales.

2. *The Epidermic Tumour* appears in the form of condylomata, corns, &c.

3. *The Epithelial Ulcer* is common on the under lip, and on the scrotum in chimney sweeps. The softened matter exhibits epithelial cells, fibro-plastic cells, some round, others caudate and flattened. These ulcers differ essentially from those of true cancer, for which they are often mistaken.

We have thus taken notice of recent contributions to histological science, because we believe that practical acquaintance with the subject is not as much cultivated as it ought to be.

### § III.—Zymotic Diseases.

4. *Epidemic Pestilences*.—The history of epidemic pestilences, from that which occurred in the reign of Pharaoh (1495 B. C.), to the latest invasion of the cholera, has been compiled by Dr. BASCOMB,\* together with some remarks on the causes of pestilences, and their prevention, and on contagion. The first portion of the work is chiefly valuable as an archæological record, in which sense it may be said to contain much interesting information; but as a record of medical facts, connected with the various outbreaks, it is especially meager. In his chapters on the Causes of Pestilence, contagion is entirely ignored, but not, that we can observe, on sound logical grounds; indeed, the author's chief argument appears to be founded on the assumption that, if pestilence were propagated by contagion, we should have been told so in the Bible; whereas, he observes, "in our most ancient medical treatise, no mention whatever is made of epidemic diseases being reckoned contagious, although, at the time the Levitical code was propounded, there was no lack of experience in epidemic diseases." The prophylaxis advised by the author consists of the well-known conservative agents, light, air, water, drainage, and personal cleanliness.

5. *Fevers, Diagnosis of*.—This question forms the subject of an able article in our talented contemporary, the "British and Foreign Medico-Chirurgical Review,"† founded on the review of upwards of twenty communications, among the chief of which are those by Dr. Jenner, Dr. Cormack, and others, previously noticed by us. The reviewer commences by inquiring, whether there is any disease, heretofore included under the term continued fever, which should be regarded as a separate affection? In treating this question, he brings before us the account of a disease which is described by Drs. Cormack and Wardell, as appearing in Edinburgh in 1843, and which was so different in its course, symptoms, and rates of mortality, as at once to be declared to be a new disease. It was also seen in Glasgow; and in 1847 became epidemic in London, where it found an historian in Dr. Jenner. Of this fever the great characteristic was its tendency to relapse, whence its name *Relapsing Fever*. Of this disease the reviewer gives a brief but accurate description, and finally concludes by admitting the justice of those writers who have separated it from the group of *continued fevers*.

The next question entered upon by the reviewer, may be shortly stated to be: are *typhus* and *typhoid* identical or distinct fevers? This is the question which has long agitated the meetings of the French Academies; but as we have so fully entered into the subject in our former reports, we do not intend to enlarge upon it on the present occasion, but shall merely record the reviewer's conviction, that the case of non-identity of these fevers, though not absolutely proved, is yet more probable than their identity; and that an universality only of the appearances adduced is required to remove all doubt on the subject.

The concluding portion of the review is occupied with an analysis of the writing of the Germans on the same subject, from which the reviewer deduces

\* A History of Epidemic Pestilences from the Earliest Ages, &c., by Edward Bascombe, M. D., London, Churchill, 1861.

† July 1861.

still stronger reasons for regarding the relapsing, the typhus, and typhoid, as three distinct diseases; and he is prepared also to find, that a fourth febricula has also with them been erroneously mixed up under the one denomination of *continued fever*.

6. *Continued Fever, large doses of Quinine in.*—Dr. R. DUNDAS,\* in direct opposition to all who believe in the correctness of the opinion advanced in the last article, considers the remittent and intermittent fevers of the tropics to be identical with the typhus of this country, and with this conviction has been induced to treat the latter by the large doses of quinine which have been found so efficacious in the former. (See "Abstract," Vol. V., p. 163.) The doses he gives are ten or twelve grains, repeated at intervals not exceeding two hours. Three or four of these doses will, he says, in general be sufficient to exert the specific influence of the medicine, which is displayed by dizziness of the head and tinnitus aurium, or in the rapid subsidence of all the urgent symptoms. In the latter event, he observes, three grains of quinine, or some vegetable bitter infusion, should be administered three times a day, and the patient supported with good beef-tea or other light nutriment, and wine, if necessary. Should the urgent symptoms return, the large and repeated doses of quinine must be again resorted to. Slops should be avoided, and purgatives also, unless obviously indicated; but an emetic of tartarized antimony, when the *primæ viæ* are loaded, will often prove useful at the commencement, and seems to render the system more obedient to the specific influence of the remedy. Should the urgent symptoms persist, notwithstanding the administration of four or five doses of quinine, or should dizziness of the head and tinnitus aurium supervene, Dr. Dundas advises the medicine to be discontinued; and, after an interval of six or seven hours, small and repeated doses of tartarized antimony should be resorted to, until full vomiting is induced. The patient should then be allowed to rest for twenty-four hours, when the quinine should be recommended as before. If the symptoms still resist, the remedies may be repeated in succession, as above stated, for a period of four or five days; and, unless the beneficial effects are broadly marked within that time, we can no longer reasonably hope for success from this treatment, and it must be abandoned. Still, the author states boldly that in the great majority of cases of uncomplicated typhus, taken at the commencement, complete and rapid success may be calculated on; and, in all, the diseased chain of actions will almost invariably be broken—no unimportant advantage in the treatment of any malady. In the advanced periods of the disease the results will be much less certain; but, in all stages, the large doses of quinine may be safely resorted to, and will commonly calm the patient, cool his skin, allay the headache, and reduce the frequency, and improve the character of the pulse. It must, however, he says, be borne in mind, that any vital organ being seriously involved, will prove a disturbing cause to the curative powers of the remedy, which are clearly exerted on the nervous system, through which the blood and secretions are favourably modified, and often with marvellous rapidity.

In support of the statements made, including the detail of several cases, Dr. Dundas adduces the evidence of Mr. Eddomes, house-surgeon to the Liverpool Fever Hospital, who informs him that he has found this treatment to "cut" the fever short, or at least to prevent the accession or increase of the more formidable symptoms.

7. *Intermittent Fever.*—Some very valuable observations on the connection of ague and enlargement of the spleen have been made by Dr. SMITH, assistant-surgeon in the Madras Medical Service.† According to Piorry, as our readers are aware, an enlarged spleen is the actual anatomical cause of intermittent, and that the paroxysms diminish in proportion as the volume of the spleen

\* Medical Times, Oct. 4, 1851.

† On Enlargement of the Spleen, observed during an Epidemic of Intermittent Fever, in the 18th Regiment of the Madras Native Infantry. Reviewed in "Edin. Monthly Journal," Oct. 1851.

diminishes under the use of quinine. The observations of Dr. Smith, as his reviewer remarks, entirely negative Piorry's opinion. In 4000 cases which came under his care in ten months, particular attention was directed to the condition of the spleen, and with the following results. In 100 cases examined within three months of the commencement of the epidemic, the spleen exceeded its natural dimensions by four inches in length only twelve times, and in 700 other cases there was no complaint of the splenic region. Neither is the enlargement invariable after many attacks. In 11 primary cases no enlargement at all was perceptible; in 19 cases of a second attack it only occurred once; in 25 of a third attack, three times; and in 45 others, in which more than three attacks had occurred, he only witnessed it eight times. As regards the powers of quinine to reduce the bulk of the spleen, Dr. Smith equally overturns the assumptions of M. Piorry.

—Mr. W. KERR\* has contributed a paper to point out the utility of the persesquinitrate of iron in the treatment of ague. His treatment is thus described. If the patient has paroxysms of ague, ten grains of sulphate of quinine are to be given in divided doses before the expected paroxysm, combined with a teaspoonful of persesquinitrate of iron. This, he states, will probably prevent the paroxysm. The succeeding treatment consists in giving the iron uncombined. Several cases are reported in illustration of the effects of this treatment, but the author appears to us to have overrated the powers of the iron, and attributed too little to the quinine given in combination with it.

8. *Scarlatina*.—We again call attention, with great confidence in their value, to a course of lectures on this disease, now publishing in the "Philadelphia Medical Examiner," by Dr. CASPAR MORRIS. We know of no work in which a more practical exposition of its different phases is to be found.

9. *Treatment by Inunction*.—This at first sight extraordinary system first introduced by Schneeman, (Abstract, Vol. XII., p. 26,) has been tested, and apparently with good results, by EBERS of Berlin.† The number of cases were in all 22, 11 of which presented one or more of the severe complications, of whom 6 died. Of the total number, inunction was tried in 13, and the usual remedies in 9. Of the latter, 5 died; of the former, only 1 was fatal, and this was beyond hope when the treatment was commenced. The remainder recovered. The conclusions arrived at by Dr. Ebers are as follows:—

The inunction with lard did not in any way interfere with the development of the exanthem, as might, *a priori*, have been expected. The eruption came out on the third day, and declined on the fourth or fifth.

This treatment was not contraindicated by the presence of complications; on the contrary, these disappeared more favourably than under the ordinary treatment.

The chief thing noticed was the absence of desquamation. In no case was anasarca known to follow. This treatment appeared also to destroy the contagious principle.

—Dr. MORRIS does not speak favourably of this treatment, but he does not appear to have either tried it himself or known of its adoption in America.

—In the cerebral complications of scarlatina, Dr. BENNET‡ notices the beneficial influence of colchicum. In one case of great severity, he exhibited this medicine under the impression that the delirium and coma were due to non-elimination of urea. Its effect, in combination with diuretics, was to increase the quantity of urates in the urine; in connection with which appearance there was rapid and marked diminution of the alarming cerebral symptoms. He thinks it worthy of more extended trial.

10. *Belladonna as a Prophylactic*.—Although repeated communications have from time to time been made touching the prophylactic properties of bella-

\* Edinburgh Monthly Journal, Oct. 1851.

† Révue Médico-Chirurgicale, Août 1851.

‡ Edinburgh Monthly Journal, Aug. 1851.

donna in scarlatina, the opinion of the profession is much divided on the subject; it is even difficult to obtain for it a dispassionate consideration, under the impression that the idea has been introduced among many other of the absurdities of the homœopathic sect, and therefore deserving only of contempt. It is, however, an error to suppose that the treatment of scarlatina by belladonna originated with the arch-impostor Hahnemann, though he was not slow to appropriate it to his own ends. The most recent information on the subject is from the pen of Mr. BENJAMIN BELL,\* who mentions the internal use of belladonna in the course of a narrative of an epidemic of scarlatina which appeared in Edinburgh. He says that, "conceiving that no means for arresting the disease should be omitted, and that a favourable opportunity offered for testing the alleged prophylactic virtues of belladonna, he determined to give it a fair trial; accordingly, after the occurrence of the second case in the hospital to which he is attached, in which a number of boys are educated, he gave to each the fifth of a grain night and morning. This caused dilated pupil, and the dose was, therefore, diminished, and given uninterruptedly for a month, during which time no case had occurred. There was, therefore, a sufficient time for it to manifest its prophylactic power, if any were possessed, but the subsequent occurrence of several cases served to render this property doubtful."

11. *Smallpox*.—A very elaborate essay on the "Affinities and Prophylaxis of Smallpox" has recently been read before the Medical Society of London by Mr. DENDY, and is briefly reported in several of the weekly medical journals.† The author introduced the subject by pointing out the connection between a knowledge of the nature and affinities of the disease and its prophylaxis, as, if it were proved that the several varieties of pox were identical, it would be easy to substitute a mild form for the severe one. Supposing, however, that the identity of these varieties be admitted, it becomes an interesting question to determine why one form of vaccine has protective power but no epidemic influence, and varicella possesses epidemic influence but no protective power? The author, however, does not admit varicella into the class of variolous affections, as it is not inoculable, according to Bartlett, and does not prevail with smallpox, or exclude it. On the other hand, it may be stated that Bateman and many of the present day admit their identity. Varioloid is, in Mr. Dendy's opinion, essentially the same as variola. His classification is as follows:—

Variola—Smallpox.

Variola popularis—Hornpox.

Inoculated variola—In a previously vaccinated person.

Variella—Casual variola in a previously vaccinated person.

Vaccina—Cowpox.

Vaccina spuria—The pustule of grease or udder-sores, or heterogeneous or foul matter, often attended by bullæ, rupia, or erysipelas.

Vaccinella—Imperfect, or abortive vaccine.

• Lenticular, chiefly in children.

Conoid, swinepox.

Varicella { Globosa—hives—the closest affinity to variola in form, as it has a partial disk; but none of these produce full variola by inoculation.

To be capable of transmission and prophylaxis, the pox, observes Mr. Dendy, must be circular, umbilicated, and cellular; having a hard base, and containing lymph. If such be not the case, even during the crusting of the false vaccine, not only variola but variella may impart the modified form of the eruption. Mr. Dendy next examined the degree of affinity between variola and the disease which he calls variella, the nature of grease, and the various udder-sores, and then proceeded to examine the question as to the controlling influence of vaccine over variola. Of this, he asserted, there could be no doubt; but he considered the statement made by Jenner and Aiken, that vaccination was a perfect preservative from smallpox, was the foundation of the prejudices against

\* Edinburgh Monthly Journal, Aug. 1861.

† Medical Times, and Lancet, Oct. 25.

it. It is indisputable, however, he observed, that the mortality from smallpox, amounting formerly, in the British Isles, to 40,000 annually—one-tenth of the total obituary—has been so greatly abated in consequence of vaccination and the diminution of variolous foci, that it is possible that the disease may be ultimately annihilated. Variella may, perhaps, occur in 5 cases out of 100, giving a prophylaxis of 95 per cent.; the disease also, when it occurs, being much milder than inoculated smallpox without vaccination. The mortality of this modified disorder, as recorded by Thompson, was about 3 in 71; by Dr. Gregory's Report, about 6 or 7 per cent.; while of 1300 unprotected persons, 500 died of variola. Mr. Dendy next alluded to cases which were totally unsusceptible of the vaccine virus, which he contrasted with those which manifested extreme susceptibility. He remarked that it is essential that the vaccine bud or germ have a congenial soil, uncontaminated by another poison, which, like a weed, might choke its healthy growth. Even during the prevalence of specific malaria, children—though the disease be not actually developed—are rendered especially insusceptible of vaccination. In asthenic, strumous, or cachectic systems the vesicle will be blighted early, or it will burst out into excess or depravity of action, somewhat like the double or monster blossom. It becomes a disease more resembling grease or udder-sores, and its prophylaxis, of course, fails. Hence the advantage of a preparation of the system; for it is in these depraved diatheses that variola so often becomes confluent, malignant, and bloody, or terminates fatally, even before the eruption would have appeared. The natural predisposition to infection is effected by a change in the crisis of the fluids. According to the acuteness or intensity of the agents that effect this in the system, will be also the degree or extent of elaboration from the system. In the mild form of vaccine, this depuration is effected by the mere efflorescence of an areolated vesicle, the visible sign of the constitutional influence. In the severer variola, the process of elimination is multiform—diarrhoea, hæmaturia, cellular œdema and effusion, and induration and suppuration of glands, the more malignant form being attended by the bullæ of pemphigus, terminating in ragged ulcers, or deep abscess under the crust. Modified variola or variella is not a mule, as it is reproductive, and may be communicated like perfect variola, both by malaria and by inoculation. It may also induce the specific fever without eruption, in children and in nurses, who are protected in a higher degree. Its inoculation for the fourth or fifth time, the author believed, would produce full variola, marked by true variolous symptoms, and he thought it might do so at once. In several isolated cases, in which some years ago he practised its inoculation, there were both the secondary and tertiary fevers, the first a slight erethism on the third or fourth day prior to the general eruption, and the other on the maturation of the pustule. When occurring casually, the first eruption of variella is on the hands, of variola usually on the face and breast. An argument against the identity of variola and vaccinia will be found in their running a parallel course, or in the one overcoming the other, variola being generally the victor when inoculated simultaneously. This draws attention to the question of incubation or latency of a germ. The poisonous atom will sometimes lie in the system for months and years. Rabies has occurred fourteen months after infection; syphilis may produce secondary or tertiary symptoms years after primary disease has subsided. The incubation of variola may be, therefore, somewhat undefined; nevertheless, from experiments, a fair conclusion may, the author thinks, be formed as to the usual period of this incubation, when vaccine prophylaxis may be induced; and from these he judged, that, if on the third day, before the onset of erethism, rigor, and headache, perfect lymph be inserted, prophylaxis is almost certain, assuming three or four days for the premonitory symptoms before the variolous point or papula appears. The vaccine vesicle will then be eight or nine days old, the areola will be becoming indurated, and erethism will exist. It is probable, Mr. Dendy added, that, in this fever against fever, the essence of prophylaxis really exists. If under this influence the variolous papula proceeds, it will resemble umbilicated varicella or hornpock. If the vaccine be used two days later, especially if there be bronchial or pulmonary symptoms present, it will be useless. The

papula may be just apparent, but it will be blighted. There are, of course, exceptions to this rule.

In reference to protection, Mr. Dendy believes, that quality is better than quantity; that one perfect vesicle is preferable to a crop of pale, undefined vesicles. If, therefore, there be two or three perfect vesicles, with annular and indurated areolæ, combined with erethism of two or three days' duration, and followed by spotted or pitted cicatrices, corresponding with the cells of the vesicles, the impregnation and prophylaxis are as complete as from variola against the influence of malaria. Spurious variola, varicella, and variolous hornpock may still occur by inoculation. The occurrence of variella from exposure to variolous malaria, in vaccinated children, cannot be above 4 per cent. The inoculated smallpox has seldom been, Mr. Dendy believes, followed by a secondary disorder. The cases of secondary variola are marked by extreme severity, especially in adults; the fever will be acute or typhoid, and precede the eruption of variella. The cases of three children were given, one, the youngest, unvaccinated, caught smallpox and died; the second child, well vaccinated two years previously, escaped altogether; and the eldest, who was deeply pitted with smallpox, had a severe secondary attack, and also died. These children all slept in the same bed. The nurse, vaccinated in infancy, had a severe, but soon subsiding attack of variella. Other similar cases were adduced from other authors. From all this, we learn that prophylaxis is not a rule without exceptions, either in its direct or subsequent influence. With respect to the question of limitation of influence, by some it has been referred to an abstract law of time. Copland affirms that vaccination is more prophylactic than variolation for fourteen years; and Dr. Gregory has referred to the extreme rarity of variella or modified variola, until fifteen years after vaccination was generally adopted. Mr. Dendy believes that the first opinion may be extended throughout the life. He is of opinion that there is no law of limitation. That some occult change has been effected, either in the vascular, nervous or glandular system, is certain, whether we adopt the chemical, animal, or fungoid pathology. A sporule of a fungus may be sown or planted in the cutaneous tissue, as a vegetable seed in the earth, or rather as a bud is grafted beneath the bark. The cotyledon may thus be unfolded, and the developed germ is thrown up to the surface of the soil, terrestrial or cutaneous, and is there displayed, either as a flower or as a pook, in all its characteristic forms and colours. If the germ be diseased, or if the soil be uncongenial or infertile, an imperfect efflorescence will ensue, a blighted or a bloated flower will be displayed. The soil may be naturally infertile, or it may be impoverished by over-stimulation, as in the area within the circle of the ring-worm, or of those vegetable eccentricities termed "the fairy ring;" both being the result of fungoid sporule spreading in a circle. To complete the analogy, the virus has poisoned the blood, and thrown out its flower on the surface. It has thus done its duty, and the system is thus both protected and depurated. The existence of the sporules was sought to be ascertained in crusts obtained from Mr. Marson, of the Smallpox Hospital. Mr. Dendy, in conjunction with Mr. Grove, of Wandsworth, dissolved them in liquor potassæ, after which black points, which we consider to be the sporules, could be distinctly seen. The notion of a law of limitation is, he thinks, not conclusive. Some concurrent or casual causes may still be the explanation of secondary diseases. A want of balance between the antagonizing influences certainly exists; a concentrated, intense, or virulent form of epidemic may overwhelm or saturate a system that would have resisted successfully a milder influence; or a system reduced by disorder, or any other depressing cause, would yield to an attack of disease, which in a healthy state might have passed by unheeded. The proof of successful vaccination is not hypothetical; it is displayed in the perfect vesicle and the constitutional excitement. If these requisites be fulfilled, the author believes we shall have little need to re-vaccinate, or to discuss further the vague question of limitation.

12. *Sweating Sickness*.—A fatal epidemic resembling, and supposed by some to be identical with, the sweating sickness of the middle ages, appeared in several parts of France towards the close of the year 1849, and gave rise to such



serious apprehensions that a commission was appointed to investigate and report upon it. The reports of the commission, six in number, have recently been laid before the Académie de Médecine, and are ably analyzed by M. Guérin.\*

The main symptoms of the malady are headache and general lassitude; profuse sweating, rapid pulse, and painful oppression in the præcordial region. The tongue was moist, but the patients were tormented with thirst. Another very general phenomenon was an eruption of minute vesicles the size of millet-seed. The access of the disease was, in many cases, most sudden, but it was generally introduced by the occurrence of shivering for a day or two. The duration of the disease varied from four to ten days, according as the eruption was present or absent. Like cholera, the greatest mortality was seen in the first few days of the outbreak; it then lost its intensity, and disappeared in less than a week.

No line of treatment appeared materially to influence the course of the disease.

13. "*Grease*," its Communicability to Man.—A case has lately occurred in Guy's Hospital, which renders it probable that the disease in the heels to which horses are subject, called the "*Grease*," is communicable to man, and produces symptoms analogous to glanders, but of a much less fatal character.

The patient, who was under the care of Mr. Cock, was an ostler, in excellent health, until he touched his nose with matter, while dressing a greasy heel. In the evening he experienced some heat on the part, which he attributed to catarrh, but next morning the cheek and nose were observed to be considerably swollen, and a thick discharge flowed from the nostrils.

On admission, the nose was swollen and of a dusky red colour; the cheeks tumid and blotched, and on each side was a hard, painful swelling, like a periosteal node. He was ordered quinine, nitrate of silver lotion (3ss to ℥j) applied to the mucous membrane of the nostrils, full diet, ten ounces of port, and two pints of porter daily. Next day the cervical glands were enlarged; the nose was freely punctured, with great relief. Ten grains of Dover's powder at night.

On the third day the patient had passed another restless night; he complained of dizziness and pain in the head; the nose and face were intensely painful, and the tumefaction so much extended and increased, that the eyelids were now completely closed. Two hard lumps of pus came away from the nostrils. Mr. Cock again punctured the nose, and ordered a bread-and-water poultice to be applied to it. The bowels have been well relieved. The quinine was continued, but the powder omitted.

On the fourth day a great change for the better had taken place: the patient passed a good night, slept well, and was comparatively free from pain; the tumefaction about the nose, face, and eyelids is much reduced in size, and the pain much less severe. The discharge continues from the nostrils.

From this time the man continued to improve, and seven days after admission the nose had regained its natural size; the discharge was much reduced in quantity and consistence, and on the 26th of April he was presented for dismissal cured, having been in the hospital only ten days.

Mr. Cock remarked that this was the third case he could call to mind where the evidences of poisonous inoculation were clearly traced to contact with the greasy heel of a horse. In both the other cases the poison appeared to have been imbibed from wounds or cracks on the men's fingers, and the most severe absorbent inflammation was produced, accompanied by intensely acute constitutional disturbance.

In the one instance, the patient recovered after much suffering and tedious illness; in the other, he died at the end of several weeks, worn out by successive abscesses, which formed in different parts of his body. There seemed, therefore, no doubt that the greasy heel of the horse was capable of grafting a specific poison upon the human subject.

As in this case the effect of poison seemed to be clearly indicated and proved,

\* Gazette Médicale, Sept. 13, 1851.

and as the inoculation had been recent, Mr. Cock considered it expedient to endeavour to destroy the contaminated surface as speedily as possible, and to excite a healthy suppurative action on the mucous membrane of the nostrils.

The caustic solution was severely and unsparingly applied, and certainly seemed to have the decided effect of "killing the local disease." The aggravation of inflammation and tumefaction which followed the use of the escharotic, and which extended over the nose, cheeks, and eyelids, was doubtless rather to be attributed to the severity of the remedy than to the extension of the original disease. The same local effects have not unfrequently been produced where a strong solution of nitrate of silver has been injected into the urethra for the purpose of cutting short a gonorrhoeal discharge.

Mr. Cock made the punctures in this case with a broad-shouldered lancet, and carried them to a considerable depth. The blood flowed from the wounds in streams and jets, showing the congested and distended state of the vessels. The relief was most speedy and effectual.\*

#### § IV.—Diseases of the Blood.

14. *Anæmia*.—In the treatment of anæmia in children, Dr. MAUTNER has, for some time, been in the habit of employing the extract of bullock's blood. This extract is made by passing blood through a sieve, and evaporating it to a powder in a sand bath of the dried extract; the dose is ten grains.†

—The rarity of the termination of uncomplicated anæmia in death, renders the following cases worthy of record:—

The first was that of a male who was admitted into St. George's Hospital under Dr. Page. He had been ill for several months, and had chiefly complained of pain in the loins. He lost flesh rapidly, but there were no ostensible signs of phthisis. His face was remarkably exsanguine, and his lips pale; tongue whitish and anæmic; pulse 120, weak; bowels had been very costive until opened by medicine received in the previous week; he now complained of shortness of breath and palpitations. There was a slight difference on percussion at the two apices; the respiration was deficient at both, but more particularly at the right side, where it was distant and tubular, but there was no bronchophony. The heart's sounds were loud and shrill, but there was no distinct murmur; the urine was neutral, and free from albumen. Good nourishment was allowed him, and afterwards a drachm of steel wine was added to each dose of his cough medicine. He felt himself better, but continued excessively exsanguine. On the 4th of February he was attacked by vomiting. It did not appear that he had been subject to it, and, though the vomited matters were dark, they were not grumous, and probably coloured by the medicine he was taking. He had no pain at the epigastrium, nor was there any distinct hardness to be felt; but there was a certain degree of fulness opposite the end of the ensiform cartilage, which after death was found to be due to the peculiar position of the pancreas. There was a distinct bellows murmur with the systole of the heart, which was not heard so distinctly over the region of either set of valves as about the centre of the cardiac region, and rather inclining towards the apex. The sickness was stayed by a draught containing hydrocyanic acid and soda; but from this time he became daily more low, and soon died comatose. On examination after death, nothing was found to account for death save a bloodless condition of all the tissues.‡

15. *Hyperinosis*.—From the time that attention has been directed to the chemical analysis of the blood, it has been hoped, if not positively asserted, that the treatment of disease would derive material assistance from a knowledge of the composition of the blood, in particular classes of disease. To show that a dependence on such rules as animal chemistry would dictate, will lead to dangerous errors in practice, is the object of a paper by Dr. MEIERWETTER.§ He illustrates his views, in the first place, by a reference to diseases in which there is an excess of fibrine. This excess is, according to Andral, pathognomonic of

\* Reported in the *Lancet*, &c.

† *Medical Times*, May 3.

‡ *Révue Médico-Chirurgicale*, Juillet 1861.

§ *Stethoscope*, an *American Journal*, July 1861.

inflammation, and it is argued from this that the antiphlogistic treatment is called for. But to show how erroneous an adherence to this rule would be, the author takes the case of acute rheumatism, in which there is a great increase of fibrine, and shows from good authority that were bleeding, &c., pushed to the extent it might be supposed to be warranted by the constitution of the blood, serious mischief would be the consequence, and the tendency to anæmia which that disease in itself produces, would be greatly augmented; from this he concludes that a high rate of fibrine is no guide to the treatment of rheumatism.

*Erysipelas* is quoted as another disease distinguished for the high ratio of fibrine; but it is a disease, nevertheless, which not only is intolerant of exhausting remedies, but in most cases requires an opposite treatment from the first.

The author next shows that the converse holds true, viz.,—that diseases characterized by a diminution of fibrine, cannot always be treated as chemical views would indicate. To illustrate this, he takes the case of apoplexy, in which there is deficiency of fibrine, but which frequently requires bleeding. To sum up: he states that the amount of fibrine cannot be taken as a guide to practice; for it does not diminish, but rather relatively increases under bleeding, and moreover is deficient in diseases of a totally opposite nature, as apoplexy, plethora, typhoid, &c.

16. *Gout*.—We have to notice a second and extended edition of Dr. WILLIAM GAIRDNER's *Treatise on Gout*.\* Of the previous edition we gave an analysis in a former volume (Vol. X., p. 222), to which we refer. The chief additions in the present volume are contained in chapters 8 and 9, which are devoted to the consideration of the true office of respiration, of the origin of fibrine and gelatine, and of the office of the red globules. Respiration is shown not to be a mere process of defecation, but of nutrition: the bearing of these views on the subject upon which he writes, the author exhibits in the concluding paragraph of the ninth chapter.

"I have now gone through the whole of this subject of the chemical and physical constitution of the blood, with a view to prove that rest and repletion lead necessarily to accumulation of globules; that aëration is the source of the fibrine; that by exercise the fibrine is carried forward to the tissues; that by exercise, air, and moderation in diet combined, constitutional disease, and particularly gout, may be avoided and cured; that without them, it is vain to hope for more than a respite from suffering for a longer or shorter period; or only even a suspension of the most acute symptoms." (p. 183.)

17. *Chronic Rheumatism*.—A valuable analysis of the results of treatment in chronic rheumatism has been made in 143 cases by Dr. JOHN CARROLL. These cases are compared as nearly as possible together, under the circumstances of age, sex, duration previous to admission, dose and combination of remedy, result, &c. He first takes 43 cases which were treated by colchicum.

Of these, 14 only were cured, and the average duration of treatment was 15½ days; the average duration of the disease prior to admission being 73 days. Twelve were relieved, and the same number were not improved; in 5, no conclusion could be arrived at.

In rather more than half of those cured, that result was effected by the *Vinum Seminum Colchici* in the dose of from 15 to 30 drops thrice a day, with a little *Magnesia* and *Sp. Etheris Nitrici*. In a very few instances 10 grains of *Dover's Powder* were given a few times at bedtime. In 6 out of 43, the colchicum was given in powder in 4 grain doses thrice a day; in one case in 6 grain doses thrice a day, and in one case in 2 grain doses thrice a day, all combined with *Pulvis Cretæ*. In all but the last named it produced vomiting, griping, and diarrhoea in two or three days' time, and had to be left off for the *Vinum* with *magnesia*. Of this latter combination, the dose before mentioned, viz., *m. xv* to *xxx* with 15 grains of *magnesia*, and *ʒss* of *Sp. Eth. Nit.* was the most effectual, and the best borne. When the *Vinum* was given by itself it seemed slower in

\* *Gout, its History, Causes, and Cure*, by William Gairdner, M.D., Second Edition, London, Churchill, 1851.

its curative effect, and when given in  $\mathfrak{zjss}$  doses or  $\mathfrak{zj}$  doses thrice a day, either alone or combined (a measure in a few instances adopted), it invariably had to be left off, from its producing very speedily its usual severe physiological effects, with great depression, and often cramps, the disease remaining at the same time unaffected. I should add, that these results followed even when the above doses were attained to very gradually.

*Concomitant treatment.*—In 17 out of the 43 cases the warm bath thrice a week was used, and in 14 out of this number manifest relief was obtained. In 10 cases out of 43, Dover's powder was given in from 10 to 15 grains each night, and in 6 of these cases it was followed by beneficial effects. Cupping was occasionally used, and generally with benefit. Bleeding from the arm was scarcely ever practised, and calomel, Epsom salts, blue pill or colocynth, were used as preliminaries, if constipation existed. As to the seat of the disease, it was in the several joints and muscles. In four cases wherein the rheumatism existed along with sciatica as its chief feature, the treatment by colchicum was fruitless.

The 100 cases treated by nitre in large doses gave the following results:—

Of the 100 cases treated by this method, there were 61 cured, being more than six-tenths of the whole, and the average duration of the treatment was  $13\frac{1}{2}$  days. In addition to the 61 cured, there were 20 who experienced great relief, but were not entirely cured at the time of dismissal; there were 5 who experienced very slight benefit only, 3 received no benefit, and 3 got worse. In the remaining 8 cases no positive conclusions could be arrived at.

*Dose and combination of the remedy.*—The usual dose to begin with was  $\mathfrak{zij}$  thrice a day in barley-water; this was adhered to in many cases throughout, but in a large number it was increased to  $\mathfrak{zj}$ ,  $\mathfrak{ziss}$ ,  $\mathfrak{zij}$ , thrice a day, and, in one case,  $\mathfrak{zij}$  every four hours was begun with and continued without intermission for 12 days, without, the smallest inconvenience to the patient, who was cured in that period. This was a bad case of  $2\frac{1}{2}$  years' previous duration. The dose was often begun with and continued at  $\mathfrak{zj}$ , and with no disagreeable effect; sometimes  $\mathfrak{zj}$  thrice daily, and sometimes  $\mathfrak{zj}$  every four hours consecutively.

Being desirous of ascertaining whether the duration of the malady might be shortened, or good in other ways obtained by combining the Nitre with Sp. Nit. Antim. Tart. and Tinct. Opii, Dr. Cargill adopted this in a considerable number of cases, and the result has shown that no advantage is derivable from this practice. The dose of Sp. of Nitre was generally from  $\mathfrak{mxxv}$  to  $\mathfrak{zss}$  or more: that of the Vin. Antim.  $\mathfrak{mxxv}$ , and that of the Tinct. Opii  $\mathfrak{m}\mathfrak{v}$  to each dose of the Pot. Nit. Sweating and diuresis were equally produced by the Nitre alone as when given in the above combination. Of the three, the Tr. Opii alone appeared useful by frequently assuaging the severe pain.

*Disturbing effects.*—It is of great importance to remark that this remedy was invariably administered in a large quantity of warm barley-water—not less than  $\mathfrak{zviij}$  to each dose. When given in the above large doses, without a diluent and demulcentlike barley-water, it produces intense griping, with pallor of the countenance and cold perspiration, the pulse and heart's action flagging and coming down, and the greatest anxiety being experienced. This is followed by a dry red tongue, with enlarged papillæ and much thirst. This the author had an opportunity of seeing to an intense degree, in one case wherein the nitrate of potash in those doses had been administered several times without any diluent, by the oversight of a nurse; she gave it in  $\mathfrak{zjss}$  of plain water.

The author next mentions what were the *disturbing effects on the system* observed to be produced by large doses of nitrate of potash, in cases where it had been duly taken with barley-water, but had not been well borne by the system. Those effects were seldom manifested, the medicine, when properly diluted, seeming to act mildly and efficiently. When it is not tolerated, however, its effects are primarily on the nervous system. They are these: General debility of the limbs, especially the lower extremities, and the knees, too, particularly complained of. The author has seen this carried to an extent which made the patients believe that they were seized with general paralysis; the whole body seemed to be made of wood, and for some hours it was impossible for them to rise from their seat or to move hand or foot. To this were conjoined general tremblings, and the speech was affected; occasionally the names of things were

forgotten or mistaken: there was also giddiness, and a painful rushing sound in the ears. He never in these rare instances saw any distortion of the features, and the symptoms subsided in a few hours by diuretics or copious perspiration. The subjects of these effects will be found generally of the purely *nervous temperament*, especially if associated with feeble power of the constitution. When the sanguine or bilious temperament is combined with the nervous, the remedy is better borne and may be pushed farther; but the bilious lymphatic temperament, with its firm, harsh, muscular development, is the one in which this plan of treatment the oftenest succeeds and may be used the most fearlessly, as it is the one on which chronic rheumatism, when once established, displays itself with perhaps the greatest relentlessness.

The *concomitant treatment* was simple, and most generally dispensed with altogether (with a view to ascertain more accurately the value of the nitrate of potash itself), except in cases of severe complication, in which the need for additional means, chiefly local, was urgent. It consisted in occasional warm baths and vapour baths. Cupping and leeching were had recourse to in such cases as showed a concentration of the disease in particular joints, as evidenced by swelling, redness, and acute pain not shifting its seat. In dull chronic pains localized, occasional blisters were applied, and often with benefit; and, towards the termination of the cases, a liniment of ammonia and turpentine was frequently useful in restoring the natural suppleness of the parts. When the pains were so great as to prevent sleep, and to harass the patient in an unusual manner, a draught of muriate of morphia, with solution of acetate of ammonia and water, was given at bedtime. The bowels were kept free by means of occasional light cathartics; and the treatment was generally commenced by giving a dose of calomel and colocynth, followed by a draught of infusion of senna with sulphate of magnesia.

The *diet* enjoined was nutritious, being the ordinary diet of the house—viz., meat once a day, milk, rice broth. In such cases as presented symptoms verging on the acute, low diet was prescribed—such as milk, tea, sago, &c. In all old-standing chronic cases generous diet was found the best, accompanied even by ale, porter, wine, or gin.

In the above 100 cases, the *duration of the malady previous to admission* was widely different—so much so, that no analytic average could be struck with a view to results that would not have a tendency rather to conduce to error than to elucidate truth. The author states, in general terms, that the length of time in these cases previous to coming under the above treatment was from seven days to ten years, whilst there were a few who could remember no period of their lives in which they had not been victims, more or less, to the complaint. Two months, five years, six years, six months, one year, were the most common periods cited; and it should be remarked that nearly all the cases were of an unusually severe character, and had been under all manner of practitioners.

*Sex.*—It is remarkable that, of the whole 143 patients, 17 only were women, the remaining 126 being men. The average age of the women was 35½, that of the men 37½. From this it appears that, in this part of the country, men are about 8½ times more liable to be affected with chronic rheumatism than women, or for 1 woman attacked with chronic rheumatism there will be between 8 or 9 men. This is, in all probability, owing to the greater exposure of men to cold and wet.

The author finds heart affections to be very uncommon associates with chronic rheumatism. In the cases above analyzed, it was constantly found that such of them as showed heart disease, had been preceded by rheumatic fever, and the heart affection could be traced to that period of acute disease. This is in conformity with the opinion now generally entertained—viz., that acute rheumatism is very frequently accompanied by endocarditis, and, without very vigorous measures, is apt to be succeeded by permanent disorganization of the heart.

Of what value is the nitrate of potash in large doses in *acute rheumatism*? The author has had no experience of it himself in *acute rheumatism*, trusting to calomel, opium, Dover's powder, antimony, and, in the worst cases, bleeding; but Dr. Fenwick, of North Shields, informs the author that he has adopted

it to a large extent in private practice in Shields, and has found it to answer in a remarkable manner, thus confirming Dr. Basham's assertions. ("Med. Gazette," Nov. 1848.)

The author concludes by recording certain facts and deductions which have manifested themselves in the investigation of the above cases.

In 9 cases out of those wherein no relief or only slight relief was obtained, there were either *purulent collections* somewhere, or the usual *common inflammations* which precede suppuration—such as testitis, obstinate conjunctivitis, erysipelas. Are we entitled to deduce from this the general therapeutic principle, that, in chronic rheumatism, when it is in that aggravated form in which we have pus circulating in the blood, the treatment by nitrate of potash is not to be depended on, and must be relinquished for another?

Again, in 81 out of the 100, the cure was almost or altogether effected in 14 days by the nitrate of potash in large doses, and these were cases wherein, though severe, there was no suppuration, nor ordinary inflammation of particular organs. It has been before laid down that nitrate of potash acts primarily on the nervous system. May we not infer, then, that those 81 cases were cases in which the nervous system was alone at fault? And, from the two considerations taken together, may we not look at rheumatism as a disease composed of two varieties—viz., that in which its assaults are expended on the nervous system alone, and that other more severe one in which pus circulates in the blood? Various observations and reflections have led me to take this view of the subject. Rheumatism is first a nervous and then a blood disease, and it maintains a distinct individuality in both these phases in a manner more singular than other complaints.\* In what the author calls its nervous form, it is a kind of Harlequin inflammation, and less mischievous than it seems. A little energy will knock it out of the system: if uncontrolled, it undergoes a transmutation, becomes grave, enters the blood, and changes it, and walks into the heart itself, the citadel of life. At present, we want a set of careful microscopic experiments on the blood in all the varied conditions of rheumatism. Last year, at the author's request, Mr. Gibb took, for microscopic examination, small portions of the blood of several patients affected with different diseases. In the blood of one, who had no trace of inflammatory affection of any kind, we found, to our surprise, numbers of pus globules. In a few days there was developed in this patient a severe erysipelas, which finished by becoming phlegmonous. Here, then, inflammatory disease existed in the blood for a certain time without betraying its presence, until at length its increase became such (*vires acquirit eundo*) that nothing but an acute attack upon the skin sufficed for its elimination.

1. In cases wherein *mercury* has been previously extensively taken, and in cases where there is syphilitic malady present in the system, whether mercury has been taken or not, the nitrate of potash is without power. The remedy is the *hydriodate* of potash.

2. In cases of general chronic rheumatism, in which *sciatica* is the most painful feature, the nitrate of potash will banish the complaint from the other parts, but will not avail against the sciatica. In this event, *arsenic*, where it is borne, is the most powerful remedy.

3. In cases wherein the symptoms are doubtful, being circumscribed though severe, and stimulating such other common inflammations as pleuritis, peritonitis, ordinary cerebral or spinal meningitis, and even spinal irritation and hysteria, the *state of the tongue*, if it appear as if overlaid with a coat of deep or light white paint, so constant in the rheumatic condition, will most essentially guide the diagnosis.

18. *Cretinism*.—M. FERRUS, in virtue of his office of Inspector of the Condition of the Insane in France, has, during his excursions into the Alpine, Pyrenean, and other infected regions, investigated the condition of the Cretins, and has read an interesting memoir on the subject to the Academy of Medicine. As much of what he says is only corroborative of the conclusions of the Sardinian

\* Medical Gazette, Oct. 10, 1851.

commission, with which our readers have been made acquainted, we shall only advert to some few points.

M. Ferrus observes, that the number of cretins may seem to be more diminished than they really are, as, owing to the alteration of opinion that has taken place respecting them, their friends drive them away, instead of exhibiting them as heretofore,—one good result of this being that the encouragement of sexual intercourse between them and sound persons has ceased to prevail. After a vivid picture of the condition of the cretins he saw at Sion in 1837, he shows that, in many of their characteristics, they differ from idiots; the latter being far from exhibiting the animation and *bizarries* he witnessed among the cretins, who, he believes, are more susceptible of education than they are. The peculiarity which especially struck him, was the mode of the development of the cranium, which, in all, had more or less of a hydrocephalic character. Even among the more advanced cretins, some remains of memory exist; and in the demicretins it may be considerable, and is more marked than in idiots.

M. Ferrus quotes, at considerable length, Stahl's account of the pathological anatomy of cretinism, which confirms him in his opinion as to the intimate nature of the disease. "I have sought," he says, "to render prominent two orders of essential phenomena. 1. A constitutional condition of the entire economy, a peculiar temperament, a lymphatic or cretinous cachexia. 2. A moderate but permanent degree of cerebral compression, shown by the obtuse state of the senses and faculties, the general engourdissement of the economy, the unusual size and the continuous vacillation of the head." The author considers the most exact definition of cretinism would be, a *chronic œdematous hydrocephalus, diffused hydrocephalus, or cerebral œdema*,—the considerable effusion into the ventricles and upon the surface of the brain being, in his view, essential features. When the affection is generally developed in a country under the influence of continuous local causes and generative transmission, the disease affects more or less the entire mass of the brain of the cretin, though it may not at once abolish all the functions. Pathological anatomy may much more frequently show in *idiots* local affections of the brain, but the remainder of its substance has not undergone any appreciable change;—so that in them we sometimes observe isolated faculties nearly untouched, while others are absent; and certain portions of the body paralyzed or atrophied, while others are active and useful.

In regard to the *causes* of the affection, M. Ferrus is in considerable accordance with the Sardinian commission; but he attributes far greater influence, in the cretin regions of France (Brittany, the French Jura, borders of the Rhine, Lorraine, and the Pyrenees), to the absence of free ventilation by a pure air, than to bad diet, inasmuch as this is quite equal to that of various other parts of the country where cretinism does not prevail. He denies that the views of M. Grange and others, of the ill-effects of magnesian waters and soils, are founded on fact; and asks how, in such case, the disease has become eradicated from these identical soils, by the vigorous adoption of hygienic measures. He does not deny the remedial power of the iodized food that has been recommended, but he doubts its preventive agency.

M. Ferrus considers that the propagation of the affection by sexual intercourse should be prevented; and that, as regards their sequestration and responsibility, cretins should be administratively and juridically assimilated with idiots.

In respect to *education*, after referring to the part he had taken in applying this to idiots, and the gratifying results, M. Ferrus stated his belief, that even yet more encouraging ones are to be anticipated with respect to cretins, and that for the following reasons: (1.) Because the disease affecting them, contrary to what is the case in idiots, depends upon the general disposition of the economy, which can be advantageously modified by change of place, regimen, and habits. (2.) Because the pathological alteration of the brain consists in a general modification of the texture of the organ, or rather in the abnormal quantity of fluid which it contains; and that this modification is much more accessible to art than are the arrests of formation and partial alterations of cerebral substance, which are so frequently met with in idiots. (3.) Because,

while in the idiot the faculties are radically extinct, or exist only in a rudimentary state, they would have acquired in the cretin with the integral development of the organ an equally complete activity, had not disease interrupted this. Although now oppressed and obtuse, they are not absolutely obliterated.

Entertaining the above view of the nature of the disease, M. Ferrus, besides hygienic and educational treatment, would resort to means calculated to relieve the diseased cerebral condition, viz., revulsive remedies, whether acting as purgatives or external irritants.

In the discussion which followed the reading of the paper, it was objected to M. Ferrus, that his distinction between cretinism and idiocy, founded upon the pathological appearances hitherto recorded, is based upon very insufficient data. M. Grange's statements concerning the influence of magnesian soils, too, met with but little favour at the Academy, though he has accompanied their exposition by an elaborate geological map, the correctness of which is testified by M. Elie de Beaumont. M. Niepce, who has been investigating the subject in the cretin regions during the last three years, and has just published a work upon it, states that he has repeatedly analysed the waters of the most infected districts, and has hardly ever found them containing the magnesian salts in question. M. Bouchardat believes that the Sardinian commission examined this part of the question in the most superficial manner, though reporting on it so confidently. He observes also that, although it may be true, as M. Grange has brought so much evidence to prove, that the disease especially prevails in magnesian soils, yet it is not probably owing to so innocent a substance as magnesia itself. He thinks it much more likely that the gypsum, so prevalent in such soils, may prove injurious. In localities where these soils were present, and goitre and cretinism do not prevail, this may be due to the counteracting presence of iodine.\*

## PART II.—SPECIAL PATHOLOGY.

### § I.—*Diseases of the Nervous System.*

19. *Cerebral Softening.*—A brochure specially devoted to the consideration of this subject, by Dr. RICHARD ROWLAND,† has just issued from the press, and may be pronounced to be a very complete exposition of the present state of knowledge respecting its nature and consequences. There is, as the author observes, no disease of the nervous system whose nature and symptoms are less accurately defined. The term itself, "ramollissement," is applied to lesions having different pathological significations. Several varieties of softening are mentioned by the author, but for practical purposes the division into inflammatory and non-inflammatory is sufficient.

The distinctive symptoms of cerebral softening are described by Dr. Rowland with great accuracy, but it will not be necessary to do more than mention those upon which medical opinion is either divided or unconfirmed. A symptom considered by the author to be of great significance is the reiteration of comatose attacks with a rapid or almost abrupt restoration of consciousness; at one hour the patient is in the deep lethargy of apoplexy, the next, perhaps, sitting up in bed and talking rationally. This we have witnessed in a case which recently has been for some months under our observation. In this instance the coma was complete on several occasions, even to the extent of producing that "whiffing" respiration generally considered to be mortal, but the return to reason was always preceded by an hour or two of incoherence. The cause of these seizures is difficult of explanation.

The lesions of speech form a remarkable group of symptoms, and present themselves with various peculiarities. Sometimes, observes Dr. Rowland, there is an entire privation of speech, the patient at the same time being perfectly

\* Bulletin des Académies, translated in "Brit. and For. Med.-Chir. Rev.," Oct. 1851.

† On the Nature and Treatment of Softening of the Brain, by Richard Rowland, M. D., &c., London, Higley, 1851.



rational and aware of his defect. It is at other times hesitating and slow, with or without a loss of memory, of words, or an entire misapplication of them.

Another symptom of great interest is tonic contraction of the limbs. Dr. Rowland speaks of this as if it were a general symptom, and indeed it is considered by Andral and others as one of the least equivocal signs of softening. This would, however, appear to be an error.

Of the causes of cerebral softening, Dr. Rowland speaks with some hesitation. Hereditary influence is not to be traced, and a like uncertainty holds with regard to temperament. In reference to sex, Dr. Rowland's inquiries elicit the fact that, contrary to the received opinion, the female is much more liable to it than the male. In Andral's cases, 116 in number, 69 were females; and in 100 cases taken from promiscuous sources the author found 58 females to 42 males. It has generally been supposed that great mental exertion, or long-continued anxiety of mind, is a fertile source of cerebral softening; this the author refuses to acknowledge; he finds, indeed, that of 152 literary men, whose age at death was known, the average was as high as 69. Frandini found that 18 out of 104 celebrated mathematicians reached the advanced age of 80, and two lived to 90. Moral causes are of greater power in inducing disease than simple intellectual exertion.

A very important question in connection with cerebral softening is the connection of heart disease with it. Dr. Rowland enters minutely into this question, but adduces no new facts in its elucidation. He is disposed to agree with Drs. Watson and Copland, that the heart disease, when co-existent with cerebral softening, should be regarded rather as typical of a general alteration of the vascular system. This view has been strengthened by Mr. Paget's discoveries of fatty disease in the arteries of the brain, of which we have taken notice in a former volume. (Vol. XI., p. 175.)

The nature and pathology of cerebral softening are next reviewed by the author, and, as he remarks, "with no little hesitation, for it is full of difficult questions, on which the most accomplished pathologists still hold opposite opinions." In reference to the nature of this lesion, too much stress has, in the author's opinion, been laid upon colour. Redness has been looked upon as evidence of its inflammatory origin, without reflection that this appearance may depend upon simple congestion, or even imbibition. Dr. Rowland thinks that the colour is often secondary to the softening.

The colourless softening, to which the term *white* softening has been applied, has also been misinterpreted, as the author shows.

Yellow softening, according to Rokitsanski, occurs under the several circumstances following: 1. It encircles a spot of inflammation. 2. It appears in the neighbourhood of the ventricles in acute hydrocephalus. 3. Around apoplectic extravasations.

Of all the opinions as to the proximate cause of these varieties of softening, that of their inflammatory origin is the most general. The author quotes several writers who hold these views, making particular mention of Dr. Hughes Bennett, who, with Gluge, detected the presence of exudation corpuscles, which were considered as conclusive of the nature of the cases in which they were present. These were commonly seen in the red softening, but less frequently in the white variety. The latter is, according to the author, either the result of fatty degeneration, or it may be the result of obstruction of the vessels leading to the part. The occasional effect of a ligature on the carotid artery is well known, and marked examples have been recorded by us in former Reports.

The diagnosis of softening of the brain from sanguineous apoplexy is one of the most important questions connected with the disease, and is so regarded by the author. In apoplexy, the attack is generally without warning; in 20 cases in which a clot was found after death, it was so. In 20 cases of softening, the comatose seizure was without precursory symptoms only in two. In 16 out of the remaining 18, headache was a prominent symptom, and in 12, paralysis preceded coma. When, therefore, the attack is quite sudden, the probability is that it is apoplexy. Coma of a transitory nature, frequently

repeated, is characteristic of softening. The diagnosis of the two forms of softening is chiefly to be made out by the age and general appearance of the patient.

Dr. Rowland concludes his treatise with the treatment of cerebral softening in its various forms. On this subject his remarks are eminently judicious. The impending danger is earnestly to be averted by complete relaxation from intellectual exertion, and the withdrawal from exciting subjects of thought. All the functions are to be maintained as far as possible in a state of regularity. In the actual disease, much discrimination is required in the choice of remedies, and here discrimination is necessary as to the form. In the inflammatory variety, general bleeding may sometimes be advisable, but the author is more generally in favour of topical bleeding, counter-irritation, and purging. In many cases a stimulating plan will be required, and quinine, ammonia, and wine will be suitable. In the confirmed disease, his chief confidence is in small doses of the bichloride of mercury. His experience is averse to the use of strychnine.

We here close Dr. Rowland's volume, and in doing so give our cordial assent to its value. But of this we have no doubt many of our readers will convince themselves.

20. A case of softening of the brain has been made the subject of a very excellent paper by Mr. BARLOW, in which every point of interest in the pathology of the disease is minutely described. This author fully appreciates the important discovery by Mr. Paget of the connection of cerebral disease with fatty degeneration of the vessels of the brain, and states his opinion that the whole subject is worthy of reconsideration in connection with this remarkable change.\*

21. *Cerebral Tumours*.—A communication by M. KESTVEN on cerebral tumours appears in a recent number of the "Medical Gazette."† He divides these tumours into two classes, *intercranial* and *epicranial*, according as they make their exit from, or remain entirely in, the cranium. The symptoms, of course, vary, and the ease with which they are diagnosed very different. One remarkable fact which the author comments upon, is the tolerance of their presence which the brain exhibits. This all practical men must have noticed. The bulk of the paper is taken up with reports of cases illustrating this peculiarity, after which he concludes as follows:—

"From what has been said by other writers, as well as from the cases here related, it may be gathered that, although cerebral tumours present so many features in common with other forms of organic and functional disease of the brain, it is, in the present state of their diagnosis, almost impossible to arrive at a positive conclusion of the existence of such growth in any one case; yet that some of the features which they present, when considered together with the exclusion of other symptoms, may justify a suspicion of their presence, and that the history of their progress will strengthen the suspicion into a strong assumption. Pain is an almost invariable and early indication of the presence of these morbid growths; but, as it is also a sign of many other states of disease, its character must be very closely observed in order to attach it to the cause alluded to. The pain is, in general, strictly local, of an acute or intense and stupefying character, often absolutely agonizing, occurring in paroxysms at uncertain periods, and passing off without leaving any other symptom, at least probably for years. The sense of sight, hearing, and taste, after a time become more or less affected. Convulsions frequently occur in the course of their growth; these are not at first followed by palsy, which occurs usually at a late period, after the previous symptoms have been experienced at uncertain times extending over a shorter or longer period. Gastric disorders are pretty sure to occur as the disease encroaches upon the cerebral substance, and they are most frequently met with either during the paroxysms of pain or concurrently with the convulsive attacks which denote cerebral irritation. That the

\* Medical Gazette, July 4th and 11th, 1851.

† April 18, 1851.

latter should ever be absent is matter of some surprise when we consider how small an osseous deposit will excite epilepsy."

22. *Periosteal Disease of the Dura Mater.*—Dr. GOOLDEN has described, under the above name, an affection of the dura mater, consisting of congestion of the periosteum, including the dura mater, with deposits of earthy matter between the membrane and the bone. He considers it a specific disease, to which certain constitutions are liable when influenced by any cause which depresses the vital powers, such as the action of mercury, puerperal fevers, and exposure to cold and damp. The diseased action is greatly under the control of iodide of potassium.

It is said to occur at all periods of life, in both sexes, and in married women as well as virgins. Dr. Goolden, from data in which we should place no reliance, considers the disease as unconnected with syphilis. It is indicated by local pain and wakefulness, commencing from eight to ten in the evening, and abating towards morning, when perspiration ensues. The usual seat of the pain is the surface of the tibia and ulna, the cranial bones, the sternum, clavicle, and crest of the ilium.

The diagnosis of the disease is, according to the author, sufficiently facile when it affects the long bones, but when the dura mater alone is the seat of disease, it is often overlooked or mistaken. The most satisfactory results in treatment are derived from blisters, opium at night, and the exhibition of hydriodate of potassium.

23. *On the Variations of the Sulphates and Phosphates excreted in some Diseases of the Nervous System.*—This inquiry, which is supplemental to the more general investigations in disease, by Dr. BENCE JONES, includes the following diseases:—

1. Acute and chronic diseases, in which the muscular structures were affected, as chorea.

2. Functional diseases of the brain, as delirium tremens.

3. Acute inflammatory diseases of the nervous structure, as inflammation of the brain.

4. Chronic diseases of the nervous structures.

5. Acute diseases, in which neither the nervous nor muscular structures were chiefly affected.

6. Chronic disease of the same kind.

The last three gave negative results.

In illustration of the first class, Dr. Bence Jones details three cases of aggravated chorea. The urine was examined frequently from the third to the eleventh day. The phosphate was found to be diminished; the sulphates were present in very great excess. The urine was found to be so loaded with urea that nitrate of urea crystallized out before the urine was concentrated. The specific gravity of the urine was as high as 1036 in one case, 1035 in another, and in the third 1031.

In illustration of the second class, three cases of delirium tremens are given. The urine was examined from the fifth to the fourteenth day of the disease. The phosphates were not found to be so remarkably diminished as in the cases reported in the previous paper. The sulphates were found to be exceedingly increased. The amount of urea was so great that nitric acid caused an instantaneous crystallization. The specific gravity was, in one case, 1041; in another, 1037; and, in the third, 1027.

In other words, there was the most remarkable correspondence between the state of the urine in acute chorea and in delirium tremens.

In illustration of the third class, four cases of acute inflammation of the brain are given. The urine was examined from the fourth to the twenty-sixth day. Though the inflammation in these cases was not of so intense a kind as in those which were recorded in the author's previous paper referred to, yet they confirm the statement that in inflammation of the brain the phosphates in the urine are increased; they also lead to the conclusion that the sulphates are at the same time increased in the same degree.

In conclusion, the author states the phenomenon common to acute chorea and to intense delirium tremens, is increased and unceasing muscular action. The muscles, he observes, are highly complex organic compounds, in which sulphur exists in an unoxidised state; and the muscular action is accompanied, if not caused, by an action of oxygen, which, among other results, gives rise to the formation of sulphuric acid and urea; the amount of oxidation being proportioned to the intensity of the muscular action. The result produced is an increase of the sulphates and in the urea of the urine, just as if strong exercise were taken in health.\*

### § II.—*Diseases of the Respiratory System.*

24. The literature of thoracic disease has, since our last Report, been enriched by the publication of a Treatise from the pen of Dr. WALSH, a gentleman whose name alone is a guarantee for its value.

This volume consists of two main divisions, the first devoted to the principles of physical diagnosis; the other to a description, as concise as is consistent with accuracy, of the separate diseases of the lungs, heart, and great vessels. Of the first part it is not too much to say, that a more complete and exact account of the science and practice of auscultation is not to be met with in any work with which we are acquainted; as was, indeed, to be expected from the author's previous reputation and extensive opportunities.

After an Introduction on the Methods of Physical Examination in General, the author, in Chapter I., exhibits their application to the pulmonary organs, under several sections, embracing,—1. Inspection; 2. Palpation; 3. Mensuration; 4. Percussion; 5. Auscultation; and 6. Succussion. In the Second Part, the same appliances are shown in their relation to Disease of the Heart, Arteries, and Veins.

Our limits do not admit of the close analysis of a work of the magnitude of the present; nor, indeed, is it our object in any case to do more than is sufficient to induce our readers to search further for themselves at the original source; we shall, therefore, content ourselves with the notice of such parts only as illustrate the author's own views, more especially on subjects upon which professional opinion is unsettled.

Speaking of the crepitous rhonchus, the author admits that its mechanism is yet undetermined; but it seems most probable, in his estimation, that the sound is produced in the parenchyma of the lung itself, and that its physical cause is the sudden and forcible expansion of parenchymatous cells, glued, as it were, together, by the viscid exudation which fills them.

There is a peculiar form of crepitation mentioned by Dr. Walshe, which might be mistaken by the hasty and inexperienced auscultator for the crepitation of pneumonia; this is a sound accompanying inspiration only, and is produced by the unfolding, on a deep inspiration, of air-cells which are unaffected in calm respiration.

The author's observations respecting those modifications of the vocal resonance, which are known as bronchophony and pectoriloquy, are particularly instructive. These sounds have always been a source of confusion from the difficulty of determining when bronchophony should be said to end, and pectoriloquy to begin, and from the not unfrequent occurrences in which the post-mortem appearances have completely negatived the diagnosis derived from the intensity of these sounds during life. For instance, in one case we may have the most perfect pectoriloquy, and yet the cavity shall be small, or even absent altogether, the intense sound being produced by simply condensed lung; and again, a large excavation may be found in connection with a feeble bronchophony during life. This is all unintelligible to the plain disciple of Laennec, but receives a ready solution in the theory laid down by Dr. Walshe, on the conditions upon which intensification of the voice depends. He shows satisfactorily that the simple increased conduction of sound is not sufficient to explain the various phenomena; but that it is necessary also to admit the vibrations of

\* Reported in "Medical Gazette," July 11, 1851.

air reflected to a focus, which reflection depends entirely upon the physical condition of the tissues surrounding the cavity.

The conditions of an excavation most favourable to the production of Laennec's pectoriloquy are said by Dr. Walsh to be a moderate size; smoothness and density of the internal surface; emptiness; superficial position, and especially adherence to the parietes of the chest; thinness and hardness of that portion of its walls next the surface; and free communication with the bronchial tubes. Irregular and flaccid walls, however large the cavity, are not favorable to the production of intense resonance.\*

**25. Diseases of the Throat and Larynx.**—We have several communications to notice with reference, more especially, to the treatment of laryngeal affections by the topical application of the nitrate of silver.

The first is a brochure by Dr. WAGSTAFFE,† which is written with the main object of giving further publicity to the process first promulgated by Dr. Horace Green, and a notice of which at the time appeared in one of our former volumes. The diseases in which the author finds the treatment especially useful, is in the relaxed and thickened condition of the mucous membranes, the result of catarrh; follicular disease of the pharynx; and also in whooping-cough and croup.

—In whooping-cough, we may here mention, that Dr. Wagstaffe's assertions meet with confirmation by Dr. EBEN WATSON, of Glasgow, who has published a paper with the intent to call attention to the superior merits of this once ordinary treatment.‡

—Dr. HUGHES BENNETT§ has also made this same treatment the subject of a clinical lecture, with the details of two cases of laryngitis, in which it was applied by Dr. Horace Green himself, who was at the time in Edinburgh. In both the success was marked. Dr. Bennett gives the following directions for introducing the sponge:—

"The patient being seated in a chair and exposed to a good light, the operator should stand on his right side, and depress the tongue with the depressor held in the left hand. Holding the probang in the right hand, the sponge having been saturated in the solution, he passes it carefully over the upper surface of the instrument, *exactly in the medium plane*, until it is above or immediately behind the epiglottis. He now tells the patient to inspire; and, as he does so, drags the tongue slightly forwards with the depressor, and thrusts the probang downwards and forwards by a movement which causes him to elevate the right arm, and brings the hand almost in contact with the patient's face. This operation requires more dexterity than may at first be supposed. The rima glottidis is narrow, and, unless the sponge come fairly down upon it, it readily slips into the oesophagus. Its passage into the proper channel may be determined by the sensation of overcoming a constriction which is experienced when the sponge is momentarily embraced by the rima, as well as by the momentary spasm it occasions in the patient, or the harsh expiration which follows,—symptoms which are more marked according to the sensibility of the parts."

Dr. Bennett continues: "If the probang be properly prepared, and the operation well performed, the actions which take place are as follows: 1st. The sponge, saturated with the solution, is rapidly thrust through the rima into the larynx, and frequently into the trachea; for if the distance of the probang be measured from that portion of it which comes in contact with the lips, the extent it has been thrust downwards can be pretty accurately determined. In this first part of the operation, the rima glottidis is, as it were, taken by surprise, and the sponge enters, if the right direction be given to it, without difficulty. But, 2d, the rima glottidis immediately contracts by reflex action, so that on withdrawing the instrument you feel the constriction. This also squeezes out the solution, which is diffused over the laryngeal and tracheal mucous mem-

\* We shall have occasion to refer again to this valuable work, in a subsequent page.

† On Diseases of the Mucous Membrane of the Throat, and their Treatment.

‡ Lancet, Oct. 18, 1851.

§ Monthly Journal of Medical Science, Nov., 1851.

brane. Now, if the sponge be a fine one, it will be found capable of holding about 3ss of fluid, the effect of which upon the secretions and mucous surface almost always produces temporary relief to the symptoms, and strengthens the tone of the voice,—results at once apparent after the momentary spasm has abated. 3d. The action of the nitrate of silver solution is not that of a stimulant, but rather that of a calmative or sedative. It acts chemically on the mucous pus, or other albuminous fluids, it comes in contact with; throws down a copious white precipitate, in the form of a molecular membrane, which defends for a time the tender mucous surface or irritable ulcer; and leaves the passage free for the acts of respiration. Hence the feeling of relief almost always occasioned; that diminution of irritability in the parts which is so favorable to cure; and why it is that strong solutions of the salts are much more efficacious than weak ones. It may be easily conceived that such good effects must be more or less advantageous in almost all the diseases that affect parts so sensitive, from whatever cause they may arise; and that this treatment is not adapted to one or more diseases of the larynx, but, like all important remedies, meets a general indication which the rational practitioner will know how to avail himself of."

26. *Tracheotomy in Oedema Glottidis*.—M. SÉSTIER\* has contributed a paper urging the earlier and more frequent resort to this operation in suitable cases. He gives an analysis of 138 cases of oedema glottidis, in thirty-six of which the operation was performed with the result of preserving life in thirteen, and materially prolonging it in eight. He has also ascertained that the success of the operation very much depends upon the previous healthy state of the larynx, and recommends it chiefly in such cases, but does not consider it contraindicated where prior disease has been known to exist, unless it be of an advanced stage and incurable character.

As regards the time of performing the operation, M. Séstier would not be precipitate, as in several apparently very severe cases the disease has been got under by vigorous treatment. But, on the other hand, he counsels against waiting until no other chance is evident. He is guided by the amount of suffocative dyspnoea, together with feebleness of respiratory murmur.

With reference to the operation itself, the author gives the preference to crico-tracheotomy. It is easier than tracheotomy, and less likely to be followed by the entrance of air into the veins, or of blood into the trachea.

27. *Bronchitis*.—Dr. W. T. GAIRDNER has presented an elaborate essay on the pathological anatomy of bronchitis, and its influence in determining certain states of the respiratory organs, some of which have been attributed to other causes. For instance, the condition usually termed atelectasis is shown to be frequently the result of some obstruction to the tubes, as are also the patches of condensed lung attributed to lobular pneumonia. The effects of bronchitis on the production of emphysema, and the mechanism of that lesion, are also very lucidly shown. The memoir is too long for entire insertion, and will scarcely bear analysis, from the concise manner in which it is written; we are, therefore, constrained to satisfy ourselves with this brief notice of a very meritorious production, and to commend it to the careful attention of our readers, who may find it in the *Edinburgh Monthly Journal* of the present year, as also in a separate form.†

28. *Phthisis*.—The chapter on Phthisis in Dr. WALSH's book, above noticed, is a very comprehensive *exposé* of our present knowledge on the subject; and, at the same time, given in a concise style peculiarly adapted to fulfil the objects of his treatise. We shall make only one quotation from it, which will be on the physical signs of *arrested* phthisis, a point not commonly touched upon.

Dr. Walsh informs us that these signs have not yet been systematically examined, and are difficult to be reduced to rule, from the great differences of

\* Archives Générales.

† On the Pathological Anatomy of Bronchitis, and of the Diseases of the Lungs connected with Bronchial Obstruction.

the conditions under which they occur. He, however, makes the following recapitulation of the physical conditions he has himself met with. These are:—

1. Notable depression above and below the clavicles, and above the scapula, imperfect expansion, weak, harsh respiration, dulness on percussion, and strong vocal resonance, where softening had previously existed.

2. Similar depression, imperfect movement and dulness, respiration weak, with dry clicks on deep inspiration. Here softening signs had existed six months before.

3. Dulness on percussion at the apex, feeble bronchial breathing. Here the signs of softening were marked nine months before.

4. Respiration jerking, weak, and bronchial, resonance slightly deficient. Two months previous the dulness had been more marked, and there were all the signs of advancing disease (p. 380).

Dr. Walshe has also met with the signs of a cavity in a case in which, for the time, all active symptoms had subsided.

29. *The Gums in Phthisis.*—The remarkable appearance in the gums, supposed by Fredericq ("Abstract," Vol. XII., p. 180) to be peculiar to phthisis, has been made the subject of a communication to the Medical and Chirurgical Society, by Dr. Theophilus Thompson. In this communication, after alluding to the fault of allowing auscultation to supersede attention to general symptoms, the author gives the results of his observations on the existence of the sign here mentioned, and states his conviction of the frequent existence in phthisical subjects of a mark at the reflected edge of the gums, deeper in colour than the adjoining surface; in some patients a mere streak on a raised border; in others, a margin more than a line in breadth, of a vermilion tint, inclining to lake; the mark being most distinct around the lower incisors, but usually observable in both jaws, and often around the molar, but modified in its situation by the form of the mouth. The author has examined some hundred cases in the course of the investigation, and gives the analysis of 102, of whom he has full records. In 40 or 48 women, the gingival margin is present; and in 54 phthisical men, although in a few the line is so faint as to be open to question, there is only one in whom it can be considered decidedly absent. He has reasons for suspecting that the same condition of the system which produces this state of the gums tends also to produce clubbing of the fingers; but he considers that the change in the extremity of the fingers rarely occurs till some time after the streak is manifest in the gums. Of 76 patients, 45 were found to have clubbed fingers; of these 45, only 1 had gums free from the characteristic margin; yet 20 of the 76 had margined gums, but no expansion of the extremities of the fingers. The author discusses the effect of various modifying influences, such as hereditary tendency, catamenial disturbances, and habits as respects cleanliness, but cannot connect the presence of the symptoms in question with any of these circumstances; but he is of opinion that causes which irritate the mucous membrane tend to accelerate and increase the manifestation of the margin. He suggests this as an explanation of the more frequent absence of the line in women than in men, and dwells on its practical importance, as indicating, in such cases, the use of refrigerants, as preliminary to the introduction of tonic remedies. The author canvasses the question whether a similar line exists in any other disease; he allows that M. Fredericq may be correct in the opinion that certain changes in the gums occur towards the close of various chronic diseases, but he has never yet observed the peculiar margin described in this communication, without detecting other indications of consumption, although frequently only incipient. As respects prognosis in phthisis, he proposes the general rule, that cases in which the streak is observed early, or is broad or deep-coloured, tend to proceed more rapidly than those in which it is absent or slight; whilst freedom from the streak, even in the third stage, affords encouragement in treatment. In reference to diagnosis, the author believes—1st. That the absence of the streak in men affected with inconclusive symptoms of phthisis, may incline us to a favourable interpretation of any such suspicious indications; but that in women rather less weight is to be attributed to this negative sign. 2d. That the presence of the sign in women is almost conclu-

sive evidence of the presence of the tubercular elements in the blood. The paper concludes with the remark, that the symptom therein described is one of many proofs that consumption is *not* exclusively a local disease, but rather a constitutional condition, requiring for its elucidation and treatment far more than an acquaintance, however exact, with the phenomena of auscultation.

30. *Cod Liver Oil in Phthisis*.—Much scattered information may be met with in the journals of the last six months, referring to the use of cod-liver oil in phthisis. The opinion expressed universally is, that there is no other remedy or system of treatment which is capable of producing such satisfactory results. We may give references, in this matter, to the "Lancet," Sept. 13, 1851; the "Révue Médico-Chirurgicale," Août 1851; and the "American Journal of the Medical Sciences," July 1851.

—Dr. Walshe's accurate analysis of the experience of this medicine within the walls of the Hospital, for consumption, has been already given in a former volume, so that a repetition would be here out of place; we, however, refer the reader to p. 398 of his work, above noticed, for ample details on the subject.

31. *Pneumothorax*.—In a paper recently published by Dr. HAMILTON ROE,\* this disease is shown not to be so fatal as is commonly supposed, and that paracentesis holds out considerable chances of benefit. The probable advantage will, of course, much depend on the cause which has given rise to the disease, which, as the author shows, are very various. The mere presence of air, he observes, is not in itself serious; it is only when it accumulates to such an amount as to threaten life that we are called upon to remove it. Several instructive cases are related in illustration of the author's opinions.

### § III.—Diseases of the Circulatory System.

32. Under this section we continue our analysis of Dr. WALSH's volume. The physical diagnosis in disease of the heart and large vessels is considered in several sections of the second chapter of Dr. Walshe's book, commencing, as in the case of the lungs, with a description of the natural situation, dimensions, and sound produced by the organ. On these subjects, we have nothing calling for remark, with the exception of the author's opinions on the production of the second sound. The morbid sounds are divided by him into two classes: modified sounds and adventitious sounds. Under the former of these sounds, he alludes to a remarkable, though not very uncommon, phenomenon, the reduplication of one or other sound. Their appreciation is, however, of scientific rather than practical interest, as in the author's experience they are never permanent or invariable, is most commonly met with in functional derangement of the organ, and diminishes in frequency in proportion to the degree in which the heart is organically affected.

The adventitious sounds or murmurs are of two kinds: Endocardial and Pericardial. The former, it is well known, may be functional or organic. Dr. Walshe knows of no intrinsic diagnostic difference between the two. The distinction is often to be made by the presence or absence of a coexistent venous hum. In the case of the inorganic blood murmur, this is, he thinks, always present. The organic murmurs are minutely described, and are placed by the author in the following order of relative frequency: mitral regurgitant; aortic constrictive; aortic regurgitant; mitral constrictive; tricuspid regurgitant; pulmonary regurgitant; tricuspid constrictive.

The pericardial murmurs are the various forms of rubbing, grating, and squeaking sounds, all of which are traceable to the contact of the surfaces of the heart and pericardium, roughened by lymph. These sounds, according to Dr. Walshe, are easily distinguished from endocardial murmurs, by their rubbing qualities, superficial character, abrupt limitation, and variability at brief periods of time.

In treating of the several diseases of the heart, Dr. Walshe commences with

\* Lancet, Sept. 1 and 8, 1851.



functional derangement; after which he takes in rotation, pericarditis, hypertrophy, dilatation, disease of the valves, adventitious products, &c.

In the treatment of pericarditis, Dr. Walshe has some very judicious remarks on the use of bloodletting, to which he does not attach much value. Dr. Taylor, however, has shown that, if performed early, it indisputably shortens the duration of the disease. Mercury is recommended, although the author fully appreciates the observations of Dr. Taylor upon the subject. Colchicum is advised strongly, especially where the pericardial affection is of rheumatic origin.

Dr. Walshe's accounts of fatty degeneration of the heart are graphic. He says:—

"The physical signs are those of a soft heart, weak impulse, indistinctness of apex, beat, unchanged percussion, dulness; a feeble, toneless, short first sound; a long first silence and a feeble second sound. Possibly, a dynamic mitral regurgitant murmur may sometimes occur; but I do not know this from observation. The pulse is irregular in force and rhythm, either constantly, or from time to time, under excitement, indigestion, &c. On such occasions it may become exceedingly frequent: I have known it uncountable. . . . .

"Unable to undertake any sustained labour, exhausted almost on the first attempt; irritable in temper; easily put out of breath; subject to fits of dyspnoea, but not asthmatical; seized occasionally with palpitation, attended with choking sensations, cardiac uneasiness, pain or actual angina; readily becoming faint on exertion; and falling into actual syncope from time to time; suffering occasionally from vertigo, aching head, and somnolence; oedematous and livid in the lower extremities and face, these patients are often possessed with the idea that they shall die suddenly." This is a picture from which the observer can scarcely fail to recognize the disease when it comes before him.

The concluding chapter of this excellent treatise includes the diagnosis and treatment of disease of the large vessels, and is executed with equal carefulness and attention to practical utility.

33. Another valuable contribution to the literature of cardiac disease, is a treatise by Dr. NORMAN CHEVERS, now in the Indian Medical Service. The object of this treatise is avowedly to diffuse information on the treatment of the heart and aorta, more especially in reference to the management of such cases in India; but its value is far from being limited to practitioners in Oriental climes. In the first chapter, Dr. Chevers gives an account of the various adaptations which the several parts of the heart undergo in disease; and mentions concisely the consecutive lesions in other organs. He then proceeds, in the second chapter, to the more immediate object of his essay.

The treatment of heart disease is based by Dr. Chevers on six principal indications, to each of which he devotes a separate chapter. These are:—

"1. To diminish, if possible, the valvular or other immediate causes of obstruction.

"2. To endeavour to remove all causes of impediment to the circulation existing in the lungs, abdominal organs, and capillary system generally.

"3. To lessen vascular distension, by reducing the bulk of the circulating fluid, without impoverishing the system.

"4. To sustain or restore the power of the heart, and to reduce the capacity of its dilated cavities.

"5. To equalize the circulation, and to maintain free vascular action on the surface by regulating the temperature, clothing, &c., and to provide due access of pure and well-oxygenized air.

"6. To remove and avert irritation and excitement of the nervous system, and to procure, as far as possible, rest and tranquillity of body and mind." (p. 12.)

1. In fulfilling the first indication, the author points out the importance of early treatment; for while he considers that the early results of inflammatory exudation may admit of absorption, in chronic disease attempts to remove them may prove injurious. The means to be followed are, tranquillity of mind and body, and the long-continued mild courses of mercury alternating with iodide of iron and iodide of potassium. In pericarditis, Dr. Chevers agrees with Dr.

Walshe, in the injurious effects of large bleedings; his chief reliance is placed on local bleeding, counter-irritation, mercury, and colchicum. The author in this chapter also alludes incidentally to the treatment of acute rheumatism.

2. The second indication comprises the removal of all impediments to the circulation. Among these, impediments in the lungs hold a prominent place; but they exist also in the abdomen and general surface. Among the most remarkable causes of cardiac obstruction, Dr. Chevers mentions bronchitis, pneumonia, certain affections of the pleuræ; congestion of the abdominal viscera, distension of the stomach and bowels, anasarca, and obesity. The rules for treating these conditions are eminently judicious, and should be impressed on the mind of every practitioner in cardiac pathology.

3. The third indication has reference to diminishing the bulk of the circulating fluids without lowering the general powers. The importance of this indication is made obvious by the fact, that cardiac disturbance may be caused, simply by the presence of too much blood in the system, as in plethora; it also is a main cause, the author believes, of palpitation in cases of hypertrophy and dilatation, more blood entering the faulty ventricle than it can readily dispose of. The means by which the author attempts the reduction of the circulating fluid is: 1, by reducing the quantity of fluid injected; 2, by elimination of fluid by the two emunctories, the skin and kidneys; and 3, by occasional small bleedings.

4. In the chapter devoted to the fourth indication, several questions of great interest are cursorily noticed. Hypertrophy of the heart is often, we may say generally, looked upon as a morbid condition, but this opinion, as commonly understood, Dr. Chevers refuses to admit, agreeing rather with those who regard increase of the pustular development of the heart as a compensatory state instituted by nature for the purpose of overcoming some obstruction, whether in the valves or in a more distant point in the circulation. Dr. Chevers, in fact, has never seen a case of hypertrophy independent of obstruction, nor does he, like Dr. Walshe, admit the existence of concentric hypertrophy.

With reference, also, to the question of the influence of hypertrophy of the heart in the production of apoplexy, the author sides with those who regard the presumed influence as greatly exaggerated. Under the head of treatment he speaks strongly as to the inadmissibility of digitalis; this follows as a matter of course upon his opinions on the compensatory action of the hypertrophied heart; this opinion, we need hardly say, is now very generally received.

5. To equalize the circulation, and retain free vascular action on the surface, by careful regulation of the temperature, is an important part of the management of heart diseases, and as such meets with careful consideration in the author's seventh chapter. Passing over some very pertinent remarks on dress, climate, and temperature, we pass to chapter eight, in which the sixth indication is discussed.

6. In this chapter, the author states his belief that spasm, or angina pectoris, never attacks a perfectly healthy heart. In its treatment, he cautions the reader against the free use of opium, justly alleging, as a reason, that, if the heart be "fatty," as is often the case, it cannot be expected to bear powerful sedatives with impunity.

We now arrive at the last chapter, comprising the treatment of aneurism of the aorta; but our decreasing space warns us that we must now dismiss our author, which we do with the hearty conviction that his book is one of high practical value, and deserves to be received without qualification as a text-book for the treatment of the most important class of diseases of which it treats.

34. *Pulmonary Artery, diseases of.*—We are indebted to the same author for another meritorious treatise\* on the morbid conditions of the pulmonary artery, a vessel which has hitherto been considered so seldom diseased that it is barely mentioned in the standard books on diseases of the heart. Dr. Chevers has,

\* Collection of Facts Illustrative of the Morbid Conditions of the Pulmonary Artery, by Norman Chevers, M. D., &c., London, 1861.

however, by devoting many years to its study, clearly shown that the opinion of the immunity of this artery from disease is far from true, and that not only is it subject to numerous congenital malformations, but also is amenable to the action of disease.

As may be imagined, the congenital malformations to which the pulmonary artery is subject, occupy by far the largest portion of the present treatise, being both numerous and varied. All, however, meet with the most accurate demonstration. They are comprised under the following general heads:—

1. Irregularities in form and origin.
2. Congenital narrowing.
3. Malformations by excess.

Each of these classes of malformation are associated with various combinations of other irregularities of structure; for a detail of these our space compels us to refer to the original.

Of the diseases to which the pulmonary artery is liable, the first noticed is acute inflammation. The circumstances under which this is liable to occur are stated to be: 1. As a sequence of phlebitis, either spontaneous or secondary to parturition or surgical injuries. 2. In morbus Brightii. 3. As a result of rheumatism. 4. As a concomitant of certain forms of pneumonia.

Subacute inflammation of the pulmonary artery is a subject admitted by Dr. Chevers to be involved in considerable obscurity, and is generally considered to be a rare affection. The author is, however, disposed greatly to extend its probabilities of occurrence, by asserting that, in all cases in which *adherent* coagula are found obstructing the vessel, inflammation has occurred. In this opinion the author is all but singular, Paget, Dubini, and the majority of pathologists giving a different explanation of the phenomena.

Obliterations of the pulmonary artery, which are next noticed, may take place from aneurism of the aorta; it may also be the subject of dilatation, aneurism, rupture, and, lastly, ulceration. To all these the author draws attention at considerable length.

Considering that so little attention has been paid to disease of the pulmonary vessel, it is not to be wondered at that until Dr. Chevers published his present elaborate investigations no well-digested rules of diagnosis should have existed, nor that in presenting them now the author should do so with diffidence. Indeed, he admits the impossibility of detecting all the various malformations alluded to in his essay; but he believes that the following general rules will be of service as illustrating the principles of diagnosis:—

“Where the symptoms of morbus caeruleus are not developed until some days or weeks subsequently to birth, it is probable that the orifice of the pulmonary artery is narrow, the ventricular septum open, and the foramen ovale and arterial duct either closed or distinctly contracted; or the latter of these passages may have become narrowed or closed, while the former is widely pervious.

“If the infant be upwards of a year old, it is in the least degree improbable that it suffers from the malformation usually known as ‘distribution of the descending aorta from the pulmonary artery.’

“If the child has survived its fourth year, transposition of the great arteries is scarcely to be suspected.

“When cyanosis is present at about the age of three or four years, it is probably due, either to great contraction, or closure of the pulmonary orifice, with ventricular communication. Should a single systolic bruit be heard superficially in the region of the pulmonary orifice, the case will almost certainly prove to be one of the former kind.

“At the age of one month, or at any subsequent period, it cannot be judged with any probability that the heart literally consists of only two cavities.

“In early infancy there are no means of diagnosing between imperforation of the pulmonary artery and transposition of the two main arteries, except that the former irregularity is of far more frequent occurrence than the latter.

“If the patient be above the age of seventeen years, imperforation of the pulmonary orifice can scarcely be suspected.

"A person above the age of sixteen years, or a young adult, suffering from cyanosis of long standing, a bruit being audible in the region of the pulmonary artery, most probably has contraction of the orifice of that vessel, with perforation of the septum ventriculare.

"If the individual has passed the period of early youth before becoming the subject of cyanosis, or if that symptom, formerly scarcely perceptible, has become considerably more apparent of late, it is, at first sight, probable that the disease is congenital narrowing of the pulmonary artery, the impediment having latterly been increased by thickening and further contraction of the parts, consequent upon superadded disease. In this case it is probable the ventricles do not communicate.

"If the patient have passed the age of thirty years, the existence of congenital deficiency of the ventricular septum is highly improbable. Those who suffer from a congenital cause of obstruction, which has originally been sufficient to arrest the development of the septum, rarely attain to an advanced age."

The diagnosis of inflammatory changes in the pulmonary orifice is unsatisfactory, and chiefly depends on the superficial character of the systolic bruit. Dr. Ormerod ("Edin. Med. and Surg. Journal," 1846) has endeavoured to lay down more definite rules in the existence of a murmur at the base, extending from the left third intercostal space to the middle of the left clavicle for a space of two inches; but the author does not believe it possible to mark out the limits with such precision.

#### § IV.—*Diseases of the Chylopoietic Viscera.*

35. *Physical Examination of the Abdomen.*—Under the title of "Physical Diagnosis of Diseases of the Abdomen," Dr. BALLARD has published a very instructive series of papers, pointing out the aid to be derived in diagnosis from the various modes of physical examination now in use. The first exhibits the signs to be derived in health from inspection, mensuration, palpation, and auscultation of the abdomen, and then compares the signs, as modified or produced by disease of the several organs contained in the cavity. After this general review, he proceeds to a more minute examination of the physical signs afforded by each organ, beginning with the liver, and passing on successively to the kidneys, spleen, stomach, &c. These papers, which are as yet unfinished, must be regarded as a valuable contribution to clinical medicine, and as such are deserving of careful study.\*

36. *Intestinal Obstruction.*—The subject of internal strangulation of the bowels is ably discussed in a paper recently published by Mr. R. R. ROBINSON.† The points to which he chiefly turns attention are the following series of causes of obstruction: 1. Obstruction from strangulation of the intestine. 2. Obstruction from membranous bands. 3. Obstruction from the calibre of the intestine being girt round by the omentum and mesentery, one portion of intestine being twisted on another. 4. Obstruction from a combination of the two last-mentioned causes. Each of these lesions is separately described and illustrated by admirable woodcuts.

The symptoms to which these various causes of obstruction give rise are thus described:—

*Pain.*—This varies in degree, kind, and extent, in different cases. In some it is a dull and heavy sensation; in others there is no pain; in others it is acute, increased or not by pressure; and in others it occurs in a spot distant from the seat of obstruction.

*Constipation* is an almost universal symptom. *Vomiting* is also said to occur in every case; this, however, is not the fact.

*Hiccup* is an uncertain symptom. The pulse is very various in different cases and at different stages of the disease. The *tongue* offers no distinctive characters.

Of the *diagnosis*, the author observes that in the early stage it is not easy to

\* Medical Gazette, July 18, et seq.

† London Journal of Medicine, July 1851.

define the nature of the disease. The diseases most likely to be confounded with internal strangulation, are colic, enteritis, stricture, malignant disease, and intussusception. From the latter it cannot be distinguished by any unerring symptoms.

The author admits the great difficulty, amounting, in some instances, to impossibility of diagnosing one form of obstruction from another. For the treatment of this affection, see Art. 55.

This paper concludes with the following summary:—

1. The ileum is that part of the intestinal canal where internal obstruction is most likely to occur.

2. Membranous bands (probably the result of former peritonitis) are the most frequent cause of obstruction.

3. Partial is more likely than general peritonitis to lead to obstruction.

4. All the convolutions of the intestines may be united together without obstruction.

5. Mechanical, although the direct is not the sole cause of obstruction, as there is reason to suppose the mechanical cause has been in existence some time before the symptoms show themselves; other causes must, therefore, arise to produce them, and the most frequent of these are sudden and violent exercise, and errors in the quantity or quality of food.

6. It is possible for a spontaneous cure to arise from inflammation and ulceration of an obstructing band.

7. The same consequences are seen in internal intestinal obstruction as are seen in other obstructed canals, viz., hypertrophy and dilatation above the stricture; atrophy and contraction below it.

8. The symptoms vary considerably in different cases.

9. The order in which the symptoms arise is as important as the symptoms themselves.

10. There are no symptoms by which one obstructing cause can be clearly distinguished from another.

11. The duration of the disease varies much in different cases.

12. The strength of the patient should be maintained.

13. Bleeding should be employed with great caution.

14. The seat of obstruction may be very apparent, and yet deceptive.

15. An operation is only justifiable as a forlorn hope.

16. As a rule, when an operation is resorted to, the central incision is to be preferred.

17. There is reason to believe that metallic mercury has proved useful; and it is in obstruction from membranous bands chiefly, if not solely, that benefit is to be expected from its use.

— Three cases of intestinal obstruction are reported by Mr. BENJAMIN PHILLIPS. The first is a case of pure ileus, in which an operation was performed without success. The second was an instance in which the symptoms were produced by an abnormal direction in the intestinal canal. The third was a case of partial inguinal hernia.\*

— A case of obstruction from strangulation by the appendix vermiformis, is also narrated by Mr. GEORGE LANE,† and is interesting in several particulars. The patient had been subject to repeated minor attacks of the same nature, which commenced and ceased suddenly, pointing out some persistent cause of impediment, increased at intervals by some concomitant temporary cause. It was also remarkable that the pain complained of was on the opposite side, so that an incision directed to the seat of pain would have been useless.

37. *Ascites*.—The French have of late been attempting to cure ascites by injecting iodine into the peritoneal cavity; and cases of success have, from time to time, appeared in the French journals. The latest on record are those by M. CÔRÈS, of Bordeaux, an account of which may be found in the "*Gazette des Hôpitaux*."‡

\* Medical Gazette, Aug. 8.

† *Révue Médico-Chirurgicale*, Juillet 1851.

‡ Ibid. Aug. 29, 1851.

38. *Diabetes*.—We have placed this disease among the maladies of the chylopoietic viscera, in compliance with the most enlightened views of its pathology now entertained. What the exact nature of the affection is, is, however, still a mystery. The most important information connected with the subject, arises out of some experiments by M. BERNARD on the production of sugar in the liver, independently of the ingesta, noticed by us in a former volume (IX. p. 215).

The experiments upon which his views are founded are, however, so well described and commented upon by a writer in the "American Journal of the Medical Sciences,"\* Dr. DONALDSON, of Baltimore, that we do not think our readers will regret a return to the subject.

Dr. Donaldson observes that M. Bernard's attention having been called to some obstinate cases of this affection, which had resisted all efforts to cure them, notwithstanding the exclusive use of azotized food, he determined to see if he could solve the question how sugar could continue to exist in such quantities in the urinary secretion when there was nothing digested which could furnish it to the system. He commenced his experiments by taking two dogs of the same size and age. One he put upon an amylaceous and saccharine diet, and the other upon meat exclusively. In a few days, by means of a syringe introduced into the jugular, he drew some blood from the right auricle of each of them, and, after permitting the clot to form, he tested the serum for sugar, and, to his surprise, he found that in both was a large quantity. Astonished at this, he repeated a number of times the experiment with always the same results, invariably finding sugar in the right auricle, whether the animals had been kept on nitrogenized or non-nitrogenized substances, and even when they had consumed no food for days. Pursuing his researches, he attempted to discover where the sugar came from, knowing that the right side of the heart could only be its receptacle. He accordingly examined the contents of all the venous trunks, the vena porta, the inferior and superior cava, the jugular, &c., and, singular to say, he could nowhere detect its presence but in the hepatic veins and in the ascending cava, and thence to the right auricle. There being no trace of it in the blood flowing into the liver, nor yet in the pulmonary artery, was not our experimenter justified in coming to the conclusion that it was fabricated in the liver and destroyed in the lungs? That there were two sources from which the system obtained sugar: one from aliments, and the other from the liver, as one of its proper normal secretions?

Not content with this, he examined the parenchymatous tissue of the principal organs, and found a large quantity of sugar in the liver, some traces of it in the lungs, but he was unable to detect it in any other. Elated with what he now considered his brilliant discovery, he reported it to MM. Pelouze and Dumas, two of the most eminent chemists in Paris. They, naturally incredulous in regard to a point so calculated to upset the established doctrines as to the formation of sugar, insisted that there must be some mistake, and after witnessing the experiments, they resorted to the plausible theory that, as the liver had the peculiar property of retaining and accumulating within its tissue certain metallic poisons, as arsenic, &c., it was probable that the animals which had been fed upon nitrogenized food, or kept fasting, had a few days previously eaten amylaceous substances, and thus the sugar formed from them had not all passed off from the liver. To show the correctness of his opinion, M. Bernard kept dogs for six weeks from all species of nutriment from which it was possible that sugar could be formed, and still, as before, he found it both in the blood coming from the liver and in the organ itself. With the energy for which he is so justly distinguished, he continued his investigations on different animals, and satisfied himself that sugar was to be found as the secretion of the liver of the horse, the ox, the dog, the cat, and the rabbit; moreover, that it exists in birds, fish, reptiles, even in oysters and snails. And what is still more conclusive as to its being produced in the tissue of the liver is, that it can always be detected in that organ of a fetus after the fifth month. Further still, the

fœtus of oviparous animals which are separated from the mother have exactly the same kind of sugar in their liver, and in no other organ!

Following up his experiments, M. Bernard has proved conclusively that the sugar he had found was a secretion, by showing the influence of the nervous system over its production. As an irritation of the ophthalmic branch of the fifth pair leading to the lachrymal gland produced a free flow of tears, so a slight galvanic shock, or irritation with a knife applied to the medulla oblongata at the point of origin of the pneumogastric nerve, caused an increase in the secretion of sugar; so much so that a large quantity was carried off in the urine a few minutes after the operation. A violent shock to the corpora olivaria, or the cutting through of the nerve, would arrest the secretion, as was shown by autopsies made some hours afterwards. The author gives these not merely as statements made by the professor, but as confirmed by experiments repeated in his presence. He has seen several instances where cases of diabetes were produced in dogs and rabbits at pleasure—the urine drawn off previous to the operation giving us no evidence of the presence of sugar, whereas that voided twenty minutes after contained a large quantity, as did the blood and every secretion except the saliva, into which it never enters. So true is this that, in one instance, M. Bernard detected it in the urine of some kittens who had been fed by a cat, on whom he had a few minutes previously operated, showing that it had been transmitted through the milk. He has witnessed the arrest of the secretion by a violent shock to the nervous system, and by the communication of the nerve being destroyed, so that the urine, which a few minutes previous had contained a large quantity, was rendered perfectly free from it. Subsequent experiments have somewhat modified this last fact, M. Bernard having in some cases produced the secretion by irritating the olivary eminences notwithstanding the previous severance of the nerve. The probable explanation of this is that the grand sympathetic also serves as a conductor, as in a case of diabetes observed by Duncan; its volume below the diaphragm was found to be three or four times greater than what it normally should be. The portion of the medulla oblongata which appears to be most intimately connected with the production of sugar in the liver is not more than three lines in diameter, lying in the groove between the corpora testiformia and the corpora olivaria, and over the adjoining part of the latter. M. Bernard can predict the amount which will be secreted from the depth of his incision; if the instrument employed is not thicker than a millimetre, or the twenty-fifth part of an inch, the proportion in the urine will be four parts in a hundred. Beyond a certain point, of course, there is great danger of killing the animal or of arresting the secretion.

The continuance of the presence of sugar in the urine after the operation is variable, according to the animal experimented upon, and also the manner employed. In general, in the rabbit it lasts forty-eight hours, and in the dog four days, and in one instance as long as seven days.

There were several phenomena which presented themselves as accompanying these experiments which are well worth noticing. The animals were continually in motion; their excitability was such that one might have supposed that some preparation of strychnine had been used. This continued until the sugar could no longer be discovered in the urine, as did also the acceleration of the respiration, which can be explained by the extra duty the lungs had to perform in destroying so large a quantity of sugar. May not this excessive fatigue of the respiratory organs account for the liability of diabetic patients to pneumonia and phthisis, which so often are the cause of their death. A curious fact elicited was that the temperature of the body was diminished several degrees. This is singular, as M. Magendie, judging from the fact that the amount of sugar secreted was greater in birds and other animals where the temperature was higher, and indeed in proportion to the elevation of the temperature, had supposed that its destruction in the lungs was one of the causes of animal heat. In the rabbits rendered diabetic there was an increase of the urinary secretion, as there generally is in the human subject. The amount of salts appeared to be diminished, but this was owing to the quantity of liquid. As to the perspiration, which in man is to a great extent suppressed, it was difficult to decide in the animal.

The secretion of sugar may be arrested by different causes, as an acute pain caused by any operation on the nervous system, such as exposing the medulla oblongata, or pricking the sciatic nerve. Indeed, in renewing his experiments on the excitability of the eighth pair, M. Bernard has been surprised to find that often instead of augmenting the secretion, he has caused it to disappear, though the irritation appeared but slight; and now he acknowledges that the suppression takes place as a result of almost any lesion of the nervous system, except that of the olivary bodies and of the space about them, before mentioned. Diseases, such as intermittent fever, pneumonia, &c., or indeed anything which affects sensibly the nervous system, interrupt this secretion. There was a case in the service of M. Andral, of a diabetic woman, who ceased to discharge sugar in her urine at each attack of diarrhoea, to which she was subject. A slow lingering death from any cause has this effect. It is known that frequently in diabetic patients there is an absence, during the last stage of the disease, of the presence of the characteristic symptom in the urine caused by the complete exhaustion of the nervous energy. So it is not surprising if sometimes no sugar is found in the liver of patients who have died of diabetes. M. Bernard has invariably detected the presence of sugar in the livers of different animals, as he procured them from the butchers. Anxious to get a human liver of a subject that had not died of a disease which, by its long continuance, might have affected the saccharine secretion, he obtained that of a man who had been guillotined the day previous, and, experimenting upon it before the class, he found it contained somewhat more than an ounce of diabetic sugar. A short time previous, he had had an opportunity of examining a patient of M. Rayer, who had for a long time been suffering with glucosuria, of which he had died suddenly; the amount of sugar in his liver was two ounces and a half, more than double that of the healthy one. In general, animals who eat amylaceous substances, secrete sugar in greater quantities than others, and the longer abstinence is prolonged the less the liver contains. Adults require and secrete more than the young.

As we mentioned before, the only kind of sugar which is assimilable is the grape, and all the other varieties are converted into it by the combined action of the bile and the pancreatic juice before being taken into the general circulation. The sugar found in and secreted by the liver differs from the ordinary glucose only in certain physiological properties, in being more readily absorbed into the circulation, while it is more easily and in greater quantities destroyed in the lungs. It is proved to be of the second variety, moreover, by its difficult crystallization, by its reducing the salts of copper, and from the fact of its refracting rays of light to the left. It is distinguishable from the sugar of milk because the latter is indestructible in the blood, and never ferments, and it also corresponds in every particular to the saccharine matter of diabetic urine.

The interesting question arises as to what becomes of the sugar, whether secreted by the liver or formed from alimentary substances. We have seen that it is destroyed in the lungs, where with the blood it is exposed over a large surface to the contact of the air. M. Bernard proved by a simple experiment that the destruction of sugar was not, as was its production, under the influence of the nervous system; but altogether a chemical phenomenon. He cut both the pneumogastrics of an animal, and injecting some grape sugar into the blood, found that it was consumed, as in the case of the integrity of the nerves. Moreover, sugar in blood disappears when in contact with air out of the body, as well as in the lungs. It is necessary that the blood should be alkaline for this to take place, for if an acid be added, the destruction is prevented. The contrary is the case in regard to cane sugar, the presence of an alkali interfering with its being destroyed. Attempts have been made to render the blood of animals acid by the injection of vegetable acids, but death has always ensued too soon. M. Bernard found, on adding an alkali to blood coming from the liver, that the destruction of the saccharine principle took place very gradually, and he is disposed to believe that the usual alkalinity of the blood favours, but is not the cause of the consumption of the sugar, which is owing to a peculiar organic matter, some ferment which he has not yet been able to seize. He thinks this supposition probable, from knowing the effect in other parts of the



economy of animal substances which exist in very small proportions, and which apparently have but little power; the diastase, like the strong acids, converting amylaceous matter into sugar. This ferment acts not like yeast, by producing alcohol and carbonic acid, but by converting the sugar into lactic acid and carbonic acid; the latter of which is exhaled from the lungs. In the artificial diabetes produced in animals, the amount of carbonic acid given off by the lungs was much greater than it was before the experiments; and furthermore, their arterial blood became much darker, and gradually resumed its normal tint as the excess of sugar diminished. Thus it was proved that the amount of carbonic acid was in proportion to that of the sugar. It is calculated from experiments, by injecting this diabetic sugar into the veins, that the lungs can destroy over and above what they ordinarily do, as much as five drachms (3v), whereas of the common grape sugar only one drachm (3j); all above this passing off in the secretions. Cane sugar thus introduced is found untouched in the urine.

If the secretion of sugar by a lesion of the olivary bodies surprises physiologists, its arrest by any trouble of the nervous system should not, for it has often been observed that the secretion of the mammary gland can be altered in quality or even entirely suspended by a strong moral impression, and still more by an acute physical pain. In the same way, a violent passion or fright has affected the formation of the bile, the elements of which remaining in the blood, cause a jaundiced appearance of the eyes, the skin, &c.

This discovery of this hepatic secretion shows us the nature of diabetes mellitus, for that disease has as its principal symptom an excess of this identical sugar.

At first, Bernard was inclined to believe that the cause of the production of an abnormal quantity was some affection of the eighth pair of nerves, but his more recent researches have somewhat modified this opinion. Whether the primary lesion exists at their point of origin or in the liver itself it is difficult to decide. This organ is generally hypertrophied, but its anatomical examination has as yet shown nothing. The ancient theories, explanatory of this singular disease, are proved in a great measure to be groundless. The hypertrophy of the kidneys and the lungs, as described by M. Rayer, is accounted for by the extra duty they have to do; the one in eliminating the sugar from the blood, and the other in its consumption.

Rollo regarded it as the effect of a disease of the stomach in which the gastric juice contains a principle not found in the healthy state, which acts upon starch, converting it into sugar. M. Bouchardat, in urging this view, states the fact that large quantities of sugar have been found in matters vomited by diabetic patients; but this is no proof; for, as we before mentioned, the gastric juice itself, like the other secretions, contains more or less, where from any cause there is an excess in the system. The ingenious reasoning of M. Bouchardat is rendered unnecessary, it being now established that it is not only from feculent substances taken into the stomach that sugar is formed. Moreover, it is not necessary, as he states, that sugar should first be transformed into lactic acid before being absorbed, it having been proved that grape sugar as such enters into the circulation and passes off by the lungs. M. Mialhe's idea of diabetes is founded upon two suppositions, both of which are gratuitous. In the first place, it is not the alkalinity of the blood which destroys the sugar, it being merely an accessory; then the suppressed cutaneous transpiration does not render the blood either acid or neutral, for it remains invariably, so Mr. Bernard stated, alkaline.

Experiments of suppressing the cutaneous exhalation of animals by varnishing them all over, have neither rendered them diabetic nor yet altered the alkaline character of their blood. In admitting that the diabetic state is an exaggeration of a natural function of the liver, and consequently a disease of that organ, it still remains to be determined what are the causes and how they act to produce it. It is not only the thirst which is increased in persons suffering with this disease, but the activity of all the nutritive functions is greater; the appetite is more craving; the respiration accelerated, &c.

The great frequency of this disease in England and Germany, where it is common among children and very old persons, though it goes generally attacks

the middle-aged, is accounted for by the habitual use of fermented liquors, which, it is said, favour its development. It is believed that debilitating causes, bad food, excesses, the passions, low and unhealthy habitations, render its production more easy.

The last point we propose noticing is the therapeutical application which, after all, ought to be the end and aim of all scientific medical researches. As it is certain that aliments which contain sugar or starch increase the amount of 'saccharine matter in the urine of diabetic patients, and thus aggravate the disease, they should, as far as possible, be avoided. In this way, we are able to destroy a part of the morbid element; but it is positive that, notwithstanding their suppression, the sugar continues to show itself in the secretions.

M. Bernard has found that the acids and ammoniacal preparations recommended by some, fatigue the stomach and effect but little; the efficacy of astringents has been much overstated. Quinine, in combination with iron, has produced good results. Any remedies which act decidedly upon the nervous system, such as alkalies (urged by Mialhe), iodine (tried by Lugol), opium, creasote, mercury, &c., are beneficial, but, unfortunately, their effect is but temporary, the constitution soon becoming accustomed to them. M. Bernard hopes that observers will in future direct their attention in their treatment to the liver and to the nervous system, and these experiments may yet give us some valuable results, now that the nature of the disease is settled.

39. *Is the Appearance of Albumen in the Urine a Favourable Sign in Diabetes?* —M. RAYER makes this question the subject of some practical remarks in a paper read before the Biological Society of Paris. He alluded especially to a case which he saw in consultation with M. Landouzy, which had improved, to a certain extent, under the use of alkalies, with abstinence from farinaceous matters, when albumen was detected in the urine. There were, however, no other signs of Bright's disease; and the appearance of albumen was a phenomenon for which M. Rayer had no ready explanation.

MM. Dupuytren and Thénard considered that, when albumen appeared in the urine of a diabetic patient, it was indicative of improvement, being, as it were, a transition stage between the saccharine state and that of health. M. Rayer, however, is disposed to regard the change as not salutary, as in cases witnessed by him; though the sugar disappeared, the occurrence of oedema showed that the change was not for the better. In fact, in more than one case, although there was no recurrence of sugar, the patient died of one or other of the consequences of albuminuria.

A case narrated by Dr. Christison also proves that the appearance of albumen in the urine may be an indication of a serious complication, to be followed soon by other symptoms of renal disorganization. The case was that of a man, set. 40, who had been the subject of diabetes for two years. Unexpectedly, it was found that the urine coagulated by heat and nitric acid, and that its specific gravity became lower, until at length it was as low as 1010, without any traces of sugar being present. The man soon after died from diarrhoea, and after death his kidneys were found in an advanced stage of granulation. It may, therefore, be taken as a pathological fact, that though in some cases the substitution of albumen for sugar in the urine of diabetics may be a good sign, in others it may indicate a serious complication.\*

---

We here close our Report on Practical Medicine for the past six months. On the subjects connected with Diseases of the Urinary System and Skin, and with Materia Medica, we have nothing to add to such notices as appear under the several sections of the Abstracts. We may except papers by Dr. HUGHES BENNETT and Dr. OWEN REES on Albuminuria, which we postpone to our next volume.

\* Archives Générales.

## II.

### REPORT ON THE PROGRESS OF SURGERY.

---

THE domain of Practical Surgery has had few or no additions in the past six months which can strictly be termed novelties, but several subjects of interest have received more ample elucidation; as, for instance, the treatment of aneurism by pressure, perineal section in stricture, and the treatment of diseased joints by free incision. The two forms of these processes have not been treated without the intermixture of a considerable degree of personal animosity, in no wise conducive to the better understanding of the subject, and but little creditable to the parties concerned. We gather from what we have read, with regard to the treatment of aneurism by pressure, that it is chiefly applicable to aneurism of the brachial and femoral artery, and, in the majority of cases, if judiciously carried out, cure the disease; but it has the disadvantage of being often tardy in its operation, and accompanied with so much pain that it is questionable whether it is to be preferred to the simple operation of the ligature when the subject is healthy, and no circumstances exist which are calculated to cause a wound to be prejudicial; the tediousness of the process in many cases has caused the patient to refuse to submit to it, and to demand the ligature.

Much misapprehension as well as angry discussion appears to have arisen respecting the perineal section. Its chief advocate, Mr. Syme, publishes numerous cases in disproof of the impression that it is a dangerous operation; while, on the other hand, scattered instances are recorded in which disastrous consequences and death have been laid to its charge. When the communications on the subject are more fully divested of partisanship, its true merits will be more justly appreciated. As the question at present stands, we are disposed to side with Mr. Syme, and take this opportunity to correct a misapprehension which has arisen out of the remarks of our reporter on surgery in a former volume.

Of Mr. Gay's proposal to make free incisions into diseased joints for the purpose of favouring ankylosis, by removing the morbid contents, we entertain the most favourable opinion, as, doubtless, will also our readers, when the subject is laid before them in detail.

#### *Bibliography.*

The surgical works which have reached us are the following:—

I. *Lectures on the Principles and Practice of Surgery.* By BRANSBY B. COOPER, F.R.S.

II. *On the Transmission from Parent to Offspring of some forms of Disease, &c.* By JAMES WHITEHEAD, M.D., F.R.C.S.

III. *The Spine; its Curvatures and other Diseases, their Symptoms and Treatment, &c.* By CHARLES VERRAL, M.R.C.S., &c.

IV. *The Anatomy and Diseases of the Prostate Gland.* By JOHN ADAMS, F.R.C.S., &c.

1. Mr. COOPER's Lectures, now published in a comprehensive volume, are the transcript of the doctrines which the author has been for many consecutive years in the habit of teaching in the school of Guy's Hospital; and as such

furnish the student with a clear epitome of the science and practice of surgery as now established. The subjects treated of are those which are generally introduced to the notice of the surgical student; but in the order in which the author has arranged them, we find an evident improvement on the ordinary routine. The surgery of the regions may be referred to as particularly illustrating our meaning. The first lecture is on the blood in its physiological condition, an acquaintance with which the author rightly deems of essential importance to the comprehension of disease; from this he proceeds to inflammation, irritation, morbid poisons, wounds, diseases and injuries of bones, &c.

The surgery of the regions includes hernia, diseases of the rectum, bladder, genital organs, breast and vascular system; and the volume concludes with chapters on tumours, amputation, and the venereal disease. We shall have occasion to refer to some of these particulars in the several sections of the present Report, and therefore shall in this place merely commend the work to our readers, as a most valuable book of reference, and to the busy practitioner who will find therein all that is really valuable divested of all unnecessary detail and profitless speculation.

2. Dr. WHITEHEAD's volume contains the results of much minute inquiry into the facts of laws which regulate the hereditary transmission of disease. We notice it in the present report from the circumstance that the disease principally illustrated, viz., syphilis, is generally considered to be the province of the surgeon. The book itself is made up of five chapters; the first treats of hereditary transmission in general, the second contains the details of thirty-three cases of inherited syphilis, the analysis of which is given in the third. The succeeding chapters are occupied with a description of the external manifestations, and the treatment of constitutional syphilis.

Of late years the subject of syphilis has been, it may be said, restudied; and the once unquestioned authority of Hunter has been made to yield precedence to the dicta of a more enlightened series of pathological observations.

In this, as in some other questions, on account of a peculiar facility of investigation, our continental brethren have taken the lead, and it has been ascertained, that not only is the disease propagated by the intercommunication of persons in whom it exists in its acute, or as it is generally called its primary form, but that it is capable of transmission in its secondary or constitutional existence. The author of this present treatise is a strong believer in this latter phenomenon of syphilisation, and the main object of his work appears to be to prove not only that if a man has once had syphilis he may infect the woman with whom he cohabits, but that secondary symptoms are communicable, and that the virus may be also transmitted by the breast milk, and still further that contamination may ensue through the act of vaccination.

Another novel, and, if true, most important feature of the present work, is the bringing under the domain of syphilitic affections many diseases of the womb, generally considered to be of more specific origin, such as engorgement, granular ulcer, and cauliflower excrescence, the physical signs by which he supposes the syphilitic nature of these affections, are minutely described; but these we reserve for our Report on Midwifery.

The contents of the last chapters, on external signs and treatment of constitutional syphilis, will also be deferred to a further page.

3. Mr. CHARLES VERRAL adds another to the numerous list of works on spinal curvature and other diseases of the vertebral column. His reasons for publishing on this somewhat hacknied subject are, that although existing works are numerous, he knows of none which affords all the information required for the successful management of spinal cases, and moreover that unusual opportunities which he has had at his command have well qualified him for the work he has undertaken. In the arrangement adopted by him he first gives some general introductory remarks on the nature of deformities of the vertebral column, after which he treats of individual affections under the following heads: lateral curvature; caries of the spine, or angular curvature; paralysis as caused by disease of the spine; psoas abscess; excurvation; incurvation. He also appends chapters on rachitis, spinal irritation, and hysterical affections of the spine.

This work embodies the observations of a gentleman, who, from peculiar circumstances, has had extensive experience of disease of the spine, and may be taken as a safe guide by the practitioner who is not fully conversant with the subject. It is free from the spirit of charlatanism which too often pervades similar works, the diseases in question having been seized upon by a section of that horde of quacks which leaves in the present scarcely any department of the healing art undefiled by their touch.

### § I.—*Injuries and Diseases of Arteries and Veins.*

1. *Treatment of Aneurism by Compression.*—The journals of the last six months contain reports of several cases in which compression was resorted to in the treatment of aneurism, and as now the profession seems disposed to experimentalize on the subject, we shall doubtless, in a short time, be able to arrive at a just conclusion respecting the value of the operation, and the cases in which it is appropriate.

The first case we shall mention is one related to the Medical and Chirurgical Society by Dr. O. B. Bellingham,\* who has laboured so meritoriously to introduce the operation to the notice of the Profession. The case was one of popliteal aneurism of large size. The treatment was commenced by placing the patient on rigid diet, the horizontal posture, and daily purgatives. Compression was commenced on December 4th, at 11 A. M., by means of two instruments, one applied over the ramus of the pubes, the other on the lower third of the thigh. Next morning the pulsation had ceased, and the tumour was hard and solid. Moderate pressure was kept up for several days.

Dr. Bellingham appends a table of all the cases in which this treatment has been carried out in Dublin during the last seven years. Of these 26 were cases of popliteal aneurism, 21 of which were cured; 6 were cases of femoral aneurism, of which 5 were cured, the sixth having been a form of traumatic aneurism in which amputation of the limb was the only resource. Three were cases of brachial aneurism, of which 2 were cured; in the other, a high bifurcation of the brachial artery existed, and two vessels required to be tied. One was a case of radial aneurism, which was cured by compression. Of the remaining 5 cases of popliteal aneurism, amputation of the limb was performed in 1, the patient recovering; in a second, the ligature was used with success; in a third the patient was obliged to return to his employment before the cure of the disease; the aneurism diminished in size, and the patient continued to work for above three years afterwards, when symptoms of aortal aneurism supervened, under which he sank. In a fourth, the patient died of pulmonary disease; and the fifth patient, who was of a broken-down constitution, died of erysipelas.

The author also gives a comparative statistical account of the results of treatment by compression and by ligature. Of 36 cases in which compression was employed, a cure was effected in 29; of the remaining 7 the artery was tied in two, the patients recovering. In 1 the pressure was discontinued. In 2 amputation was performed; and in 2 others death occurred, in 1 from pulmonary disease, and in the other from erysipelas. In both, the aneurism was nearly cured. These results he contrasts with those of ligature of the femoral artery. In Norris's Statistics, "American Journal of Medical Sciences," 188 cases are given; of these 142 were cured and 46 died, 6 of the cured cases requiring amputation.

It cannot be disproved, as, indeed, Dr. O. B. Bellingham admits, that the treatment has not been so favourable elsewhere as in Dublin. He accounts for this on the supposition that the instruments have been defective, or that an unnecessary degree of pressure has been used.

The author does not advocate compression indiscriminately; he would not employ it in diffused aneurism; nor in very large aneurisms. He strongly urges the importance of being provided with suitable instruments, and prefers Carte's, of which we have given a drawing in a former volume, to all others.

\* *Medico-Chirurgical Transactions*, vol. xxxiv., 1851.

—Mr. WARD, of Huntingdon, gives a case of popliteal aneurism, in which compression was successful, but a period of more than three months elapsed before pulsation was entirely suspended.\*

—Another instance of popliteal aneurism occurs in Addenbrooke's Hospital, Cambridge, under the care of Mr. HUMPHRY. The pressure was made by a Santorini's tourniquet in the middle of the thigh, and another of the common kind at the groin. Great pains were taken to completely stop the circulation, and after fifteen hours the pulsation in the tumour had ceased. In two months he was moving about on crutches.†

—Other successful cases are to be found recorded by Dr. WARSON‡ and by Mr. WARD.§ The first of these was remarkably rapid in its progress, the pulsation in the tumour ceasing within thirteen hours after the application of the compression. Mr. Ward's case was treated, in the London Hospital, by Dr. Carte's instrument, combined with the use of a weight of six pounds on the ramus of the pubes where the femoral artery passes out.

—Among the unsuccessful cases in which pressure was tried, we find two in which the artery required tying, subsequently; one of these was under the care of Mr. Lawrence,|| and recovered; the other, a patient of Mr. Hilton's,¶ died of gangrene of the limb and purulent deposits in the joints.

—A case is reported by Dr. Bennet in the "New York Journal of Medicine,"\*\* in which pressure was made successfully over the tumour itself. As this treatment is peculiar, we give the case at length.

Thomas Elwell, aged 30, subject of popliteal aneurism, for which ligature of the femoral was advised. Hearing of the benefit of compression, he determined to try it, and commenced the treatment himself by bandaging the limb from the toes to the knee, and placing a compress of folded cloth directly upon the pulsating tumour. He persisted in this course for two or three months without the least benefit, when he determined to substitute a firmer compress. Instead of folds of cloth, folds of *sheet-lead* formed the nucleus of his compress, which was applied in the same manner as before. The reporter called upon him occasionally to watch the progress of his treatment, and after the end of ten days from the application of the lead compress, found him suffering much pain in the knee-joint, from the severe pressure which he had made, but there was no diminution in the size of the tumour, or the force of the pulsations, the latter being readily felt through the compresses when applied with all the force which he could endure. He was advised to discontinue what was considered a hazardous proceeding, and to abbreviate his sufferings by submitting to the usual operation. Notwithstanding, being a man of very strong resolution, he determined to pursue this course still longer, and abide the issue. At this time, however, he threw aside the lead compress, and filled its place with a *ball of caoutchouc*, which he bound upon the tumour with all the force he could endure. Not long after, perhaps two or three weeks, the author called again to see him, and was much surprised upon examining the limb, (which he exhibited with no little triumph,) to find the tumour much diminished in size, and the *pulsation gone*. From this time the tumour in the popliteal space was gradually absorbed, and at the end of a few months had entirely disappeared.

—Mr. COOPER has had but little experience of the treatment of aneurism by compression, and does not appear to have met with a successful case in his own practice.††

2. *Galvano-puncture in Aneurism*.—The latest information on this mode of treatment, frequent mention of which is made in our former volumes, is from the pen of Professor SCHUK; the results of whose experiments are given in the following resumé of his interesting memoir:—

1. The coagulation of the blood is not always the immediate consequence

\* Prov. Med. and Surg. Journal, No. xiv. 1851.

† Lancet, July 19, 1851.

‡ New York Journal of Medicine.

†† Ibid., p. 754.

† Ibid., Oct. 29, 1851.

¶ Ibid., July 1851.

\*\* Med. Times, Aug. 9, 1851.

of electro-puncture employed during from ten to twenty minutes; on the contrary, it is frequently not observable until after the lapse of many hours, or until the second day, and it increases in degree during one or two days; it is therefore manifestly due to inflammation excited by the operation. Where the coagulation takes place during the operation, it is certainly to be attributed to the chemical and also partly to the mechanical influence created by the presence of the foreign body. The more the mass of blood is kept at rest, the greater is the probability that coagulation will set in during the operation; it is, therefore, advisable to apply a bandage above and below the seat of operation. The hardness shows itself most frequently earlier at the positive than at the negative pole; if the needles are, for example, three or four inches apart, the entire intervening space does not become hardened at the same time, but the central point between the two insertions remains more or less soft. 2. Sensibility to the galvano-puncture varies in different individuals; on closing the contact all experience pain, which, however, in one patient quickly ceases, or passes into a gentle pricking sensation; while in another it continues very violent, and even occasions spasms of the limbs. The pain occasionally abates, to return again in the same degree. It was most frequently more acute at the positive pole. 3. During the galvanic action, a grayish-white, lenticular, semi-transparent vesicle very soon forms around the needle of the zinc pole; a slightly bluish one subsequently appears at the negative pole; both are surrounded by a narrow red halo, in which the elimination of gas can be seen, and even crepitation can be perceived. 4. On the following day, a brown stain is observed on the burnt cuticle in the situation of the vesicle, or more frequently a little scab, which falls off without suppuration in the course of two or three weeks, leaving a slight depression. On one occasion only did the formation of an eschar penetrate deeper. 5. The subsequent inflammation is indicated by the occurrence of pain. On the second day the hardness, heat, and sensibility have increased; the latter, however, is seldom very excessive. These phenomena continue for a few days only; the coagulum of blood in contact with the inner coat diminishes, and draws the walls towards the centre, causing a diminution of the caliber of the vein. 6. A single application will scarcely ever effect a cure; the electro-puncture must be frequently repeated. 7. Its employment is not free from danger; phlebitis, with secondary pyæmia, is no uncommon consequence of the operation. Moreover, it is evident, that prudence in the choice of cases is indispensable, and that its performance is not admissible except when the trunks of the superficial veins of the lower extremity are alone dilated. In aneurisms in which the application of ligature to the vessel itself is no longer possible, or would be attended with too great danger, electro-puncture appears to offer a chance of success, only when preceded by the application.

3. *Treatment of Erectile Tumours.*—A case of large *nævus* in the cheek of an infant, treated by subcutaneous ligature, is reported by Mr. BIRKETT.\* The operation was only partially successful.

—The treatment by vaccination has been successfully carried out by M. MARJOLIN† in an instance related to the Surgical Society of Paris. The diseased congeries of vessels occupied the temple, both eyelids, cheek and lips, as well as the mucous membrane of the lips and palate. It was decided in consultation that nothing could be done to remedy so extensive a disease; but, as the patient, a little girl, had not been vaccinated, M. Marjolin made fifteen or sixteen punctures around the morbid tissues, and inserted vaccine virus. Great inflammation ensued and spread over the whole tumour. At the end of three years a great change for the better was observed. The characters of erectile tissue had almost disappeared, and in its place a firm whitish tissue was seen, somewhat less vascular than the surrounding skin.

4. *Varicocele, new treatment of.*—In a thesis with this title, M. PRUNAIRE speaks of a new mode of treating varicocele by caustic. He also enters minutely into certain anatomical considerations calculated to throw light on the pathology

\* Guy's Hospital Reports.

† Archives Générales.

of the disease. In the first place he has taken the measurements of the right and left spermatic veins in fourteen cases, together with the comparative weight of the testicles on either side. In classing the subjects according to their ages, he finds that between the ages of 3 months and 2 years, there was a difference of from one to two centimetres in favour of the left spermatic vein; between the ages of 30 and 35 years the difference was from two to three centimetres. As regards the size of the testicles, the author has constantly found the left larger and heavier than the right.

A recent writer has given the absence of valves in the spermatic veins as the cause of varicocele, but this the author refuses to admit, as he concludes from the observations of St. Hilaire, as well as from his own researches, that valves are present in these veins in the majority of instances; this of course suffices to vitiate the theory arising out of their presumed absence.

The treatment adopted by M. Prunairé is thus described: The pubes being denuded of hair, the patient is requested to walk for an hour or two; he is then chloroformed. An incision is next made over the cord, the sheath is opened with the utmost caution, and the veins scrupulously isolated from the other structures; this being done, some lint is passed underneath them to prevent the contact of the caustic with the subjacent tissues, and the veins are daubed with Vienna paste. After a few minutes the caustic is sedulously removed by washing the part in a dilute acid solution, and the wound is dressed. The veins which have been touched shrivel up, and when the eschar falls, are found to be completely obstructed.\*

5. *Treatment by Mechanical Support.*—A valuable paper on the radical cure of varicocele, by means of a spring truss, appears in the "Dublin Quarterly Journal of Medical Science." The merit of suggesting the application of pressure to varicocele is given to the late Mr. Key; this particular instrument, the lever spring truss, was, according to the author, the invention of Dr. Thompson, of Dalkeith. Its *modus operandi* is by preventing the weight of the column of blood from above. The author of the paper from which we quote, Dr. Morton, was consulted by a young man, who was, as is generally the case, in a state of mental prostration, leading to thoughts of suicide. The lever truss was adjusted in the recumbent posture when the veins were empty, and the result was most favourable. The vessels diminished in size and tortuosity, and in the course of some months the patient was able to marry. The author enters candidly into the objections which have been urged against the use of trusses in this affection. Mr. Curling lays great stress on the pain which attends their use; and Professor Syme is stated to have said, that the remedy is worse than the disease. Dr. Thompson, however, scarcely mentions this pain, and in the author's case it was trifling.

It is said also, that the pressure may cause atrophy of the testes, but this objection the author disposes of by stating, that an amount of pressure likely to cause this consequence, is greater than is required for the treatment of varicocele. This danger is to be obviated by a proper adjustment of the spring leverage of the instrument. Almost all the proposals for the operative treatment of this disease, and they are many, (see "Abstract," Vol. II. p. 215.) are discountenanced by the highest living authorities, so that there is but little choice of remedies. The advantages of treatment by pressure are numerous; the author mentions—avoidance of confinement and concealment of their disease; security as to life; immunity against sloughing, inflammation, and other dangers inseparable from ligature, caustics, and incisions.†

## § II.—Injuries and Diseases of the Head and Neck.

6. *Eyes, Injuries to, from Shot, &c.*—Sportsmen are liable to a class of injuries, of greater or less severity, which surgeons are often called upon to treat under oftentimes very unfavourable circumstances. The following observations by Mr. WHITE COOPER will therefore be read with interest:—

*Injuries from Shot.*—Mr. Cooper notices three effects from the action of shot

\* Gazette Médicale de Strasbourg.

† Dublin Quarterly Journal, Nov. 1851.



on the eye. If the shot be spent, it will bruise the eye without penetrating, causing considerable ecchymosis, and sometimes paralysis of the retina. If the eye be struck obliquely, the shot glances off, cutting a little furrow; but if struck point blank, the tunics will probably be perforated, and the shot lodged in the interior of the globe. With reference to the treatment of these cases, Mr. Cooper says, that if the shot can be seen in the anterior chamber, there can be no doubt as to the propriety of extracting it by an incision in the lower part of the cornea; but if it be hidden in the globe, all meddling is to be deprecated. Under such circumstances the room must be darkened, and absolute quiet enjoined; and the sound eye should be covered with plaster, to prevent the wounded one from opening and being moved by sympathy.

*Injuries from Copper Caps.*—The author has seen several instances of serious injury to the eye from this cause. The wound is generally clearly incised, heals rapidly, and for a time the patient seems in a fair way to recover; but after some period, varying from a few days to a month, acute pain in the eye comes on, with extensive chemosis, swelling of the eyelids, and haziness of the cornea. These symptoms may subside, but are sure to recur until the eye is brought into a state of chronic irritation.

To remove the fragment, the following proceeding is sanctioned by the author. The patient being placed in a convenient position, a large flap of the lower part of the cornea is to be cut, as in the operation for extraction, but it must then be snipped off with a pair of scissors. The operation being extremely painful, chloroform must be exhibited. A linseed-meal poultice is then to be applied, and the foreign body will generally be found in the poultice in a few days. Collapse of the globe is a necessary consequence of this operation.

*Injuries from Thorns* are common in this country. If the thorn have penetrated the sclerotic, it should, if entire, be carefully extracted. If it has been broken, the case is more difficult, and the author then makes an incision on each side, and extracts it with the forceps.

In conclusion, the author makes the following general remarks on these injuries: If a surgeon be called to an injury of the eye, the organ should be carefully cleansed from all blood and coagula, and thoroughly examined. If there be a foreign body, no time should be lost in extracting it; if not, the patient should be kept quiet in bed, subjected to the strictest antiphlogistic discipline, and carefully watched. It should never be forgotten that the integrity of the organ depends on the *prevention* of inflammation, and that this is chiefly to be accomplished by measures adopted within the first three days. The state of the lids will be the criterion of the state of the eye; so long as they remain free from tumefaction, all is going on well; but not so if a little puffiness appear at the inner angle, and gradually steal over the lid. If active measures have not been resorted to, no time should be lost in adopting them; the patient, if robust, should be bled from the arm, cupped from the mastoid process, or leeches over the temple. The cold wet rags must give place to warm fomentation, and mercury must be exhibited.\*

**7. Cervical Glandular Tumours, Operations on.**—Some instances of the successful removal of enormous glandular tumours on the neck have recently been recorded.

Dr. VALENTINE MOTT has described two cases, which he prefaces with some very just remarks on the importance of anæsthetic agents. The first case was that of a little girl, æt. 10 years, the subject of a mass of glandular tumours, nearly the size of her head. The tumours occupied the cervical region from the ear to below the clavicle, pushing the trachea to the opposite side. Dr. Mott determined to remove these, which, with the aid of chloroform, he accomplished successfully.

The second case was, in all respects, similar, and also had a fortunate termination.†

—Two cases of extirpation of the parotid glands are reported by Dr. MOSKES WEAT,‡ and a third by M. MICHAUX;§ they were all successful.

\* Lond. Journ. of Med., Nov. 1851.

† New York Journ. of Med., July 1851.

‡ New York Journ. of Med., July 1851.

§ Encyclographie Médicale, Juin 1851.

—An instance of the extirpation of a voluminous bronchocele appears among our extracts. (Art. 74.)

### ‡ III.—*Injuries and Diseases of Bones and Joints.*

8. *Fractures, Statistics of.*—A very elaborate paper on the statistics of fractures, which have occurred during a period of twelve years in the New York Hospital, has been furnished by the late resident surgeon, Mr. LENTE. The tables comprise fractures of the thigh, leg, arm, forearm, clavicle, lower jaw, pelvis, scapula, sternum, patella, and skull, amounting in all to 1722 cases. The tables include age, sex, occupation, season, seat of fracture, &c.; the whole containing a mass of information of great utility in the history of accidents of this nature. At the end of this paper, the author mentions a new mode of keeping up extension in fracture of the femur, which is more comfortable to the patient than any other. In six cases recently treated in this manner, he mentions that though the shortening was an inch or more by measurement at the commencement of the treatment, in two there was at the end of the treatment absolutely no shortening, in all the others less than half an inch. This plan consists in the employment of broad strips of adhesive plaster, (two and a half or three inches,) which are applied to the limb previously shaved, on either side of it, from a little above the knee to below the foot, where it is secured to the ring at the end of the screw by means of a stick and cord, so that the plaster shall not be wrinkled. These two straps conjointly extend around two-thirds or three-fourths of the circumference of the limb, and are then confined by a single roller bandage. To prevent slipping of the plaster, the extension is not applied until some hours after the application of the former to the limb. This improvement in surgery, which is certainly one of the most valuable that has been suggested for many years, is due originally to Dr. E. Wallace, of Philadelphia.\*

9. *Fracture of the Cervix Femoris.*—In a paper by Mr. HODGSON, of Chesham, four cases are given, which show that, contrary to a once prevailing opinion, bony union readily takes place if a proper position be maintained for a sufficiently long period; that the double inclined plane, for from fourteen to sixteen weeks, without restraint to the pelvis, is sufficiently long for that purpose; and that age and debility are no obstacles to bony union, though they favour absorption of the neck. He also remarks, in reference to diagnosis, that it is not necessary to feel crepitus; that the shortening and excision may be very small indeed. He considers that when after a fall on the hips, an old person is from that moment perfectly disabled in that leg, there is strong presumption that the cervix femoris is broken. The fact, that a bony union is so rarely seen under the old plan of treatment is, he thinks, owing to too great precipitancy in allowing the patient to get up. This paper is illustrated by several well executed lithographic drawings.†

10. *Ununited Fracture.*—That this is comparatively a rare result of fracture, may doubtless be attributed to the skill with which, in the present day, these accidents are treated. It will, however, sometimes happen that from peculiar circumstances connected with the patient's constitution, little or no effort is made by nature for the reparation of the injury, until the cause be obviated, whether it be syphilis or simple debility. Under any circumstances, the treatment requires to be carried out with great circumspection.

To obtain bony union in these resisting cases, many proceedings are adopted, some of which have been illustrated in recent instances. Among our abstracts is a remarkable case, treated by Mr. Stanley, upon Dieffenbach's plan, which consists in driving little ivory pegs into the extremities of the separated bones. The same surgeon treated another case by sawing off the ends of the bones, with a less fortunate result, as the man died of phlebitis, with purulent deposits. The femur was the bone operated upon.‡

—Three cases in which unconsolidated fracture was successfully treated by

\* New York Journal of Medicine, Sept. 1841.

† Guy's Hospital Reports, 1851.

‡ Medical Times, Jan. 4, 1851.

electric acupuncture occur in Dr. LENTE's Reports of the New York Hospital. The author expresses his confidence that electricity is one of the best remedial agents in such cases, and that if more attention were directed towards it, it would supersede the harsher methods adopted. Friction of the ends of the bones often, as he observes, fails, and the seton is not unfrequently a dangerous operation, as it converts a simple into a compound fracture. Electricity has no such objections: but to be efficacious it must be used conjointly with passing needles down to the fragment; the simple application of the poles to the soft parts adjacent to the fracture, appears, according to Dr. Lente, to have no efficacy.\*

—Simple acupuncture without the aid of electricity has been successfully employed by M. LENOIR in a case of ununited fracture of the femur, the details of which are published in the "*Mémoires de Société de Chirurgie.*" (Art. 59.)†

11. *Hysterical Affections of the Hip-Joint.*—A paper on this subject, from which we have taken one of our abstracts (Art. 41), has been contributed by Mr. COULSON. He was consulted in the case of a young lady, of nervous temperament, on account of an affection of the right hip-joint, for which she had undergone a great deal of surgical treatment; she was bedridden and helpless, complaining of severe pain over the whole limb. The author's attention was, however, attracted to the fact, that the general health had not suffered as might have been anticipated had there been severe disease of so long duration. He ordered her steel without benefit, and she remained helpless as ever, when on being made acquainted with family matters, which made a strong impression upon her mind, she suddenly rose from her couch and walked.

The above is a marked case of simple nervous affection of a joint, for which, as in a case also related by the author, amputation has even been performed. The symptoms are thus described by Mr. Coulson: "In hysterical affections of the hip-joint, the patient from the first complains of pain in the part, and not in the knee, as is frequently the case when organic changes are commencing in the joint itself. The pain, which is described as most severe, is not limited to one spot, but radiates in various directions. It is remarked that though unable to move the limb without agony, if the attention be distracted, and during sleep, the patient will move it without complaint. The more, in fact, the patient's attention is directed to the part, the more she seems to suffer. In real disease of the joint, the disturbance of rest is one of the most distressing symptoms. In hysterical affections, on the contrary, the sleep is calm and refreshing.

In general, there is no visible alteration about the limb or joint; but sometimes there is a general puffiness of the whole hip. This is, however, in Mr. Coulson's experience, seldom considerable, and is analogous to the œdema which sometimes attends neuralgia in other regions.

In all cases there is a tendency to muscular contraction; the thigh is bent on the pelvis, and the leg on the thigh, and this alone becomes a troublesome symptom. The muscles also undergo a kind of atrophy, and the tendons contract cellular adhesions. The author has known this to occur to such a degree as to require tenotomy.

The pathology, as stated in a former page, is doubtful: the treatment unsatisfactory.‡

12. *Dislocations of the Humerus.*—An investigation of the pathology of dislocations of the humerus, by Professor GUNTHER, of Leipsic, has led him to the following generalizations: 1. In all complete luxations the capsule is torn to a great extent, commonly to one half; so that a narrowness of its aperture, with few exceptions, is not a cause of difficult reduction in recent dislocations. 2. In all recently examined cases (even in *L. dorsalis*) the anterior part of the capsule has been the part found torn. 3. In all but one case some of the muscles have been found torn, and especially the subscapularis. 4. The large tube-

\* Amer. Journal of the Medical Sciences, April 1851.

† Avril 1851.

‡ London Journal of Medicine, July 1851.

rosity is often in part or wholly torn off, and sometimes the glenoid cavity is broken; both circumstances inducing crepitation, and the latter rendering support necessary to prevent a redisplacement of the reduced bone. 5. The commonly termed *luxation into the axilla* may also be termed *subcoracoid*, which need not, therefore, be considered as a separate species. 6. Whether the head lies externally or internally to the subscapularis can only be determined during life, when it is far removed from the scapula towards the clavicle. The *L. subpectoralis* of Velpeau may sometimes appear as *axillary*, sometimes as *subclavicular*. 7. The head having passed through the rent in the capsule, proceeds straight on, and remains where it is dislocated to, unless new external causes act upon it, so that the idea of secondary dislocation must be rejected. 8. This observation applies also to *L. subclavicularis*, which is apparently always primary, but only producible by great force, the rupture of the supraspinatus, and fracture of the tuberosity, and is always very difficult to replace. 9. Incomplete dislocation may occur for a short period, but it is very improbable that it should so continue for long. The diagnosis during life is very uncertain, and the preparations intended to demonstrate it exhibit, by reason of the absorption of bone, appearances very similar to those of complete dislocation. 10. The bones that are brought into abnormal contact after luxation, in consequence of their partial absorption, the deposition of osteophytic masses, and the formation of new ligamentary apparatus, form a kind of new joint, which fulfils tolerably well the functions of the normal one. 11. The attempt to reduce a dislocation that has continued for more than three weeks is highly dangerous, with the exception, perhaps, of the *L. dorsalis*, and, if it can be certainly made out, the *L. subscapularis*.

In the classification of these dislocations, Professor Gunther observes, that authors have followed different principles, and have confounded these with each other. The older surgeons and Desault fixed upon the direction which the head takes, and distinguish dislocations forwards, backwards, and outwards. Later they were called, as by Boyer, Cooper, &c., after the bones with which the head came into contact, or the vicinity of, as ascertained by experiment and post-mortem examination, whence the names subclavicular, subscapular, &c. Still later they were named, as by Sedillot, Velpeau, &c., according to the relations the dislocated bone bore to the muscles,—as *luxatio subpectoralis*, &c. The requisites for the classification of dislocations in general, and of the humerus in particular, are—1. They must agree with experience, and no species can be otherwise than hypothetically received that has not been confirmed by dissection. 2. Determinate principles must be observed, so that one and the same luxation be not referred to two different species. 3. Those species can only be received that can be recognised and distinguished during life. 4. The classification must be such as to admit of definite rules of treatment being laid down. The following are the chief forms of humeral dislocation. 1. On to the *dorsum scapulae*. Of this only one dissection has been made, but this, as well as twenty-nine cases observed in the living, renders the dislocation indubitable. 2. On to the *lower border of the scapula*. The dislocation directly under the scapula can only occur if the long head of the triceps is pushed back or torn, and only one case of it has been demonstrated by dissection. Formerly this dislocation was believed common, but all recent observations show the contrary, and that in the so-called axillary the head is thrown more towards the anterior edge of the scapula. 3. On to the *anterior border* of the scapula, either upwards or downwards and in immediate contact with the scapula, or separated from it by the subscapularis. This is the most frequent form, and of which several modifications exist; but as they are not essential they do not form grounds for classification. In the commonest, the head is directed to the anterior and under border of the scapula, constituting the *axillary* dislocation. More seldom it may be found placed higher, or in contact with the coracoid process. In both these forms the head may be placed either between the scapula and subscapularis muscle, or between the latter and the thorax, and may thus raise the pectoralis more or less forwards. It has, therefore, received the various names of partially downwards, axillary, subcoracoid, subscapular, subpectoral, and intercostal. In most cases the head is placed between the scapula and subscapularis, whereby this is always

torn; but the head seldom passes through it so as to become placed under the pectoralis minor. 4. *Under the clavicle*, or towards it, and consequently removed from the scapula. This luxation, termed subpectoral by Velpeau, subclavicular by Sedillot, intra-coracoid by Goyrand, and luxation forwards and upwards by Desault, can only happen if the head has penetrated the supraspinatus, or if the connection with the tuberosity is separated. As this form is rectified with difficulty, it is commonly found in very old dislocations.\*

13. *Diseased Joints—Treatment by Free Incisions.*—Mr. GAY has attempted, in our opinion, a very salutary reform in the method of treating diseased joints, in a valuable paper read before the Medical Society, an abstract of which appears in the weekly medical journals.

Mr. Gay commenced his paper by observing, that to the present time there was no department of surgery in which the powers of art have been comparatively so feeble as when applied to the relief of those diseases of the joints which, from their results, might be termed destructive. Hence, let the articular surfaces of the joint be bereft of their cartilages, a sinus or two be formed around it, and the health of the patient show symptoms of exhaustion, and the joint, and probably the whole limb, is doomed to amputation. He adverted to the causes of the removal of the cartilage from joints, and gave it as his opinion, that in addition to primary synovial and osseous disease, the cartilages were sometimes removed by absorption, in consequence of degeneration of their own tissue, without any traceable affection of the contiguous textures. In all cases of removal of cartilage the tissue degenerates into a kind of fibrous texture, antecedent to the final process; and as portions of cartilage were sometimes observed to be removed without any apparent disorder of either the synovial or osseous surfaces, and, moreover, as cartilage was known to be inadequate to its own repair, Mr. Gay thinks it most probable that the portions of cartilage so removed had first spontaneously degenerated, and then become absorbed. Mr. Gay went on to remark, that if a series of joints be examined in which the removal of the cartilages is taking place, the appearance will be as follows: If it be presumed to follow disease of the synovial capsule, the cartilage will be found in some to maintain its connection with the bone, whilst it is thinned by absorption at its free surface. In others, however, the bone is found inflamed at various points of its connection with the cartilage; and at these points the cartilage is loose, and may be peeled off, so that portions of thin attached and unattached cartilages are found in the same joint. When entirely denuded, or almost so, the surfaces of the bones may exhibit simply a state of increased vascularity, which precedes the effusion of plastic lymph for the purposes of reparation by ankylosis, or may be observed to be in a condition of ulceration. This ulceration may exist as a simple abrasion, or be of considerable depth; but there is generally a uniformity in this respect over the whole surface. With this state of ulceration there is also a softening of the osseous structure, and frequently disintegration; the contents of the joint consisting of broken-up cartilage and osseous and other debris together, or osseous matter, with ichorous or sanious discharge. When the disease originates in the bone, as in by far the greater number of cases, in Mr. Gay's opinion, it does, the separation of the cartilage is effected by another process, which he terms "shedding," and the cartilage is then reduced to the condition of a foreign body within the joint. Shreds of cartilage thus situated in a joint may be observed after months and even years of disease; and as, on the other hand, its separation from the articular extremity of the bones may be accomplished in an almost incredibly short period of time, it is fair to infer that the time thus passed must have been occupied in the process of its extrusion from the joint, and that this is accomplished, neither by ulceration nor absorption, but disintegration by, and solution in, the discharges of the joint. But the bone itself being diseased, adds its exfoliated or disintegrated particles to the cartilaginous debris, which, with its own discharges, constitute generally the contents of a joint in which the disease commenced in its bony elements. The result

\* Schmidt's Jahresbuch.

of these discharges is to set up inflammation in the sound textures contiguous to the joint, and general systemic irritation. Sinuses form around the joint; the disease extends itself; the ligaments become ulcerated; the spongy tissue of the bones infiltrated with pus, and broken down; osteophytes form around the heads of the bones; abscesses extend themselves into the surrounding soft parts, separating the different structures, and setting up unhealthy and destructive action amongst them; and, in short, a climax is arrived at in which the local mischief reacts upon the constitution, and life is only to be preserved at the sacrifice of the joint or of the limb. Mr. Gay inferred from these remarks, of which only an imperfect abstract has been given:—

1. That there appears to be no reason why diseases affecting the constituents of a joint should be slower in their course of reparation than diseases of any other part or structure.

2. That the removal of cartilage from its osseous connection in a joint, is occasionally effected by absorption, but most frequently by a process of “shedding,” or exfoliation.

3. That cartilages thus shed become, by their being pent up in a joint, sources of local and constitutional irritation, and thus promote disease in the osseous and other structure appertaining to a joint, supposing that such affections do not exist primarily; and in case they do, these cartilages, by the same influence, maintain and extend these diseases also.

4. That the natural outlets for these discharges, the sinuses, are inadequate for that purpose.

5. That therefore the exfoliated contents of a diseased joint have to be minutely broken up by, or dissolved in, the discharges of the joint, in order to their removal; processes which are necessarily of a very protracted order, and which account for the tardiness in general characteristic of joint diseases.

6. That the exfoliated contents of a joint, after its cartilages have been removed, and even after extensive disease has been set up in the bones and other textures, have only to be completely removed, and processes of reparation will, in the majority of instances, immediately commence.

Mr. Gay then alluded to the usual modes of treatment, and remarked, that the operation of resection of a joint is not only a useless but an unphilosophical mode of treatment for diseased joints. In the first place, primary disease is generally limited to one of the articular extremities of the joint; it is therefore a useless mutilation to remove more than that disease, supposing the operation were for a moment admissible. But, moreover, dissections show that disease originating in bone, when arrived at that stage at which the operation of resection is generally employed, has extended itself far beneath the surface, and frequently along the shaft for a third of its whole length, so that resection cannot accomplish its purpose, which must be manifestly the removal of all disease. The plan Mr. Gay recommends, then, is free and deep incisions made along each side of a joint, so as to lay open its cavity freely, and to allow of no discharges being by any possibility retained within its cavity. They should be made of such a length, and so treated, that they do not heal into the form of sinuses. They should be made, if possible, one on either side of the joint, and in the direction of the long axis of the limb. They should extend into the abscesses in the soft parts so as to lay them open. If sinuses exist, the incisions should be carried through them, if this can be done without departing from a slight curve. If either of the bones be carious, or necrosed, the incisions should be carried deeply into such bones, so as to allow the dead particles of bone to escape. Ligaments which stand in the way of a free discharge from the joint should be cut through. Of course important vessels should be avoided. The wounds should be kept open by pledgets of lint, and free suppuration encouraged. The constitutional powers have in each case rallied immediately after the operation; and as the discharges from the joint have altered in character and become healthy, which they in general do in the course of two or three weeks, these become invigorated, and improve with the improving joint. Mr. Gay then narrated some cases in corroboration of his views: Peter D—, æt. 38, admitted into the Royal Free Hospital in 1842 for diseased elbow-joint of three years' standing, with ulceration of the cartilages and sinuses. The joint was

opened on either side, and healed in eleven weeks. The next was a case of disease in the articulation between the first and second phalanges of the thumb, of eighteen months' standing. Cured in six weeks. The third case was that of a man with "long-standing" disease of the tarsal articulation. One sinus led to the interior of the joint. Incisions were made on each side of the foot, and complete ankylosis followed. The fourth case was that of a little boy with strumous constitution, with disease of the knee-joint consequent upon suppuration of the bursa behind that joint. The little fellow was reduced by fever to a very low ebb, so that bed-sores formed on parts of his body. The joint was opened; ankylosis took place at the end of four months, and the knee bent on the thigh. The fifth case was that of a German, with disease of the wrist-joint, which had resisted treatment. One sinus led into it. One incision was made at the back of the joint, and ankylosis followed, but was not observed to be perfect for six months. The sixth case was that of a young Irishwoman, with disease of the tarsal articulation, following upon traumatic erysipelas of the leg and foot. She was reduced to an exceedingly low condition, and from cough with bloody sputa, night sweats, (according to Dr. Heale,) the physical symptoms of the chest, and extreme emaciation, she was supposed to be phthisical, and so diseased, that amputation, which was supposed to be the only remedy for the disease, as far as the joint was concerned, was forbidden by the authority of Dr. Heale. Mr. Gay made an incision on either side of the foot in this case, and the change both in the joint and constitution was remarkable. Her health rallied from that moment, and the joint assumed a more healthy aspect. In a fortnight the joint was fixed by the exudation of lymph between the bony surfaces, and in five weeks perfect ankylosis had taken place, and the wounds had healed. She soon after left the hospital, and was a week or two since, to Mr. Gay's knowledge, in perfect health. The seventh case was that of Highley, a report of which has been published; and the eighth was one of diseased digital phalanx, which was not successful, as the necrosed bone eventually came away.\*

—The good results of, as well as the sound pathology on which the above treatment is based, are confirmed by Mr. HENRY SMITH, who bears testimony to its utility in cases witnessed by himself.†

14. *Treatment of Fungosities of the Synovial Membrane.*—The same principles of treatment as are advocated by Mr. Gay, were adopted by M. LANGIER, and described in July last in the "Union Médicale." His treatment consists in plunging a lancet into the joints affected with white swelling, the immediate effect of which is an abundant hemorrhage from each puncture. He gives two cases, but in both the relief was only partial.

15. *Articular Cartilages, their diseases.*—Mr. REDFERN, whose researches on the healthy and morbid nutrition of these structures are well known, has recently published a paper,‡ a reprint of which is now before us, on the mode of healing of wounds in articular cartilages, and on the analogy which exists between diseases of this tissue and inflammation and ulceration of other textures. With reference to the latter portion of this paper with which we have immediate concern, we may state that Mr. Redfern examines the nature of the process by which portions of articular cartilage are removed during ulceration or erosion, with a view to ascertain whether it is in any respect similar to processes which occur in other textures, and especially to ulceration. On this point he makes the following remarks:—

"I think it will be sufficiently evident, that the essential parts of the process of removal of articular cartilages (ulceration) are,—the softening of the intercellular substance, and the release of the cells, very often attended with the escape of their contents by the destruction of the cell-walls, all the parts of the tissue being thus ejected on the ulcerating surface: whilst the cure consists in the transformation of the intercellular substance, and of the nuclei of the cells of the adjacent cartilage, respectively into the white and yellow tissue of the fibrous

\* Reported in Medical Gazette, Nov. 28, 1851.

† Edinburgh Monthly Journal, Sept. 1851.

‡ Medical Times, Nov. 29.

cicatrix. In different instances, the cells enlarge in very various degrees before they open, and their contents are,—1st, one, two, or more ordinary nuclei; 2d, the ordinary nuclei with the addition of bright, highly refractive granules, oil globules, or molecular matter; or, 3d, irregularly rounded corpuscles, from six or eight to sixty or more in number; whilst the intercellular substance softens into a gelatinous and finely molecular mass, which gradually disappears by its particles falling off on the surface; or, 2d, it is converted into an imperfectly fibrillated mass, destined shortly to become disintegrated; or, 3d, it is resolved into a more perfect fibrous tissue, which is to form part of the cicatrix.

“Ulceration in other tissues consists in the gradual detachment and ejection of dead pieces of their substance visible to the naked eye (sloughs).—in the falling away of changed portions of texture, so small as only to be recognised by the microscope, as in caries,—or in the discharge of a multitude of granules or molecules into which the part has degenerated. Being generally accompanied by inflammation in tissues furnished with blood-vessels, part of the inflammatory exudation, consisting of blastema, granules, and cells, is thrown off, together with the disintegrated elements of the part, and these constitute together a very evident discharge. The cure consists in the conversion of the nucleated cells of the inflammatory exudation into the white and yellow fibrous tissue of the cicatrix, the cells splitting to form the white, and the nuclei elongated to form the yellow fibres.

“The process of ulceration in cartilage, and other tissues, is, therefore, precisely the same if we regard merely the actions of the essential elements of the textures;—in both, softening and disintegration occur, with ejection of the molecular or granular matter into which the part has been reduced; in both, small particles of the tissue are thrown off, and are capable of recognition by the microscope; in both, larger portions of the texture, visible to the naked eye, are at times detached, in the one case in the form of sloughs of dead tissue, in the other in that of large portions of much less changed cartilage; lastly, in both instances, the process may go on with extreme rapidity, or it may make scarcely perceptible progress for a very considerable period.

“The points of dissimilarity are these,—articular cartilage contains no blood-vessels, consequently ulceration and other changes of structure confined to it are never complicated by inflammatory exudations, pus, &c., and can be examined very satisfactorily; ulceration in tissues containing blood-vessels is almost always complicated with inflammation, and the ejected particles of the tissues having undergone a very complete degeneration, and become mixed with a mass of structures formed in the inflammatory exudation, also degenerate, are, therefore, very difficult to recognise. Ulceration, or other disease confined to articular cartilage, has in no single instance been shown to be productive of pain—no doubt, for the very simple reason that these structures contain no nerves; in other textures, ulceration is often attended with very severe pain from implication of the nerves ramified in their substance.

“The healing of ulcers in articular cartilages, and in tissues freely supplied with blood-vessels, differs in this remarkable particular, that in the former the fibrous cicatrix is invariably made up of the changed substance of a portion of the cartilage not subjected to the process of ejection, and in the latter, the cicatrix as constantly results from the development of the inflammatory exudation. This difference admits of the following explanation: in the case of the ulcer affecting no texture but that of cartilage, there is no other matter from which a cicatrix can be produced than the actual cartilage tissue remaining; and it may be remarked, that cartilage is a very simple cellular texture, and that the greater number of the tissues are originally formed from cells,—that the cells of cartilage have a natural tendency to transformation into fibre, as is shown in the development of fibro-cartilage,—and that the intercellular substance shows as remarkable a disposition to produce the same result in its diseased state. In the ulceration of tissues supplied freely with blood-vessels, the reverse maintains; for the degeneration and destruction of the tissue actually involved are so complete, that this can in no way assist in the formation of the cicatrix; and there is, therefore, nothing left in this instance but the inflammatory exudation from which that substance can be formed.



**"Inflammation.**—In now directing attention to the process of inflammation, to ascertain how the diseases of cartilage stand in relation to it, it is, in the first place, absolutely necessary to state what is meant by inflammation,—for, though we may not be able to frame a definition of it which will be universally acceptable, and which will exclude tubercular, cancerous, and other morbid growths, every man is bound, in the use of a particular term, to intimate what he means by it, if it be one which has no general acceptance.

"What is to be understood here by the term inflammation, is '*a peculiar perversion of nutrition or of secretion,*' attended with certain changes in the blood and blood-vessels, and including exudation as its most important and characteristic phenomenon. This definition indicates sufficiently well for our present purpose the nature of the process understood in ordinary professional language and in practice as inflammation, but it does not separate cancerous and tubercular exudations, &c., from those which take place in ordinary inflammation in healthy persons; nor is this to be expected,—for, as there is scarcely any healthy structure, in man or other organized beings, which is capable of being separated from all the rest by definite lines of demarcation, it is not to be expected that diseased structures and the phenomena which occur in them will be capable of subjection to strict limitation and definition. As it is clear, however, that inflammation, and every process which is at all allied to it, are strictly processes of abnormal nutrition, it is necessary to inquire, What are the essential conditions of nutrition in general?

"*Healthy nutrition* requires a supply,—1st, of material of a certain definite amount and quality; and 2d, of vital force competent to convert this into tissue.

"*Hypertrophy* consists in an increase in the amount of material, and of organizing force.

"*Atrophy* results from a deficiency in the amount of material, or of both material and vital force.

"*Abnormal nutrition* is produced by various alterations in the quality of the material supplied, and in the nature and action of the organic force,—conditions which are generally, but perhaps not necessarily, associated.

"Now, for the establishment and continuance of these processes, it is not of the least importance whether,—1st, the nutritive material be supplied directly from without, as in the lowest animals and plants, or be carried to particular parts by means of a circulating system; for, in either case, when material is supplied of a certain definite quantity and quality, the first condition is fulfilled; nor, 2d, does it matter whether the vital or organic force belong directly to a particular tissue, constituting its only distinction from dead matter, or be communicated to it, or controlled in its action by a special nervous system; if the force exist, it is enough for the second condition.

"When, therefore, we are engaged in the examination of the healthy or diseased states of the lowest tribes or tissues of organized beings, we have nothing to attend to but the structure and mode of action of the part itself; but when we take up a part which contains living vessels and nerves, as well as its own proper texture, the examination becomes a very complicated one, and requires a thorough investigation of the nature of the changes in structure and action of every part of which the compound body is composed."

The author thinks that the demonstration has been fully made, that every morbid action which takes place in the structure of cartilage is referable to an abnormal nutrition of its texture, and, in so far, all these morbid actions resemble inflammation; they differ from it,—1st, in not being attended with exudation, because the texture in which they occur contains no blood-vessels; and, 2d, in not giving rise to pain on account of the absence of nerves.

If, therefore, inflammation be *merely* a process of abnormal nutrition, it takes place in cartilaginous as well as in other textures; but if we include *exudation* as an essential phenomenon of inflammation, it never affects the human articular cartilages, which contain no blood-vessels, and present no exudation in disease.

So with ulceration,—if we are to separate the softening, degeneration, and ejection of tissue in the formation of an ulcer from the exudation, which is an almost constant attendant on this process in vascular tissues, and forms cic-

trices in them, then ulceration in cartilage and in other tissues is identical, though the method by which ulcers heal in the two forms of texture is altogether different; if, on the other hand, we include in the term ulceration, the production of exudation and its transformation into the tissue of the cicatrix, then it is equally clear that ulceration in cartilage and in vascular tissues differs in the occurrence of those phenomena in the latter case and not in the former.

Finally, the author calls attention to the following conclusions:—

"1st. Wounds in articular cartilages heal perfectly by the formation of fibrous tissue out of the cut surfaces.

"2d. The fibrous cicatrix consists of white and yellow fibres, which are formed out of the inner cellular substance of the cartilage, and out of the nuclei of its cells respectively.

"3d. Articular cartilages disappear after amputation at the joints, either by being transformed into fibrous tissue, which is mixed with that of the cicatrix—or by slow ejection of their particles into a newly completed synovial sac.

"4th. Ulceration in articular cartilages differs from that in other tissues, in neither being accompanied by exudation, nor attended with pain,—differences which depend on the absence of vessels and nerves.

"5th. Ulcers in articular cartilages heal by transformation of the surrounding cartilage tissue into fibre, but those occurring in other textures are cured by the formation of a cicatrix out of newly exuded blood plasma.

"6th. Inflammation, regarded as a process of anormal nutrition, attended with changes in the blood and blood-vessels, including exudation as an essential phenomenon, does not occur in articular cartilages in man, simply because these textures contain no blood-vessels.

"7th. The whole diseased states of cartilage are referable to a changed or anormal nutrition of the texture, and to this alone; when unaccompanied by disease in other textures, they produce no pain or other symptoms by which they can be recognized, and have much less surgical importance than they have for many years been supposed to possess."

16. *Bursæ Mucosæ*.—The anatomy and pathology of the deep bursæ mucosæ, or those which are interposed where tendons are exposed to friction, are attentively considered by Mr. COULSON. He first gives their anatomical arrangement, enumerating their different positions and attachments, after which he enters upon their pathological conditions. He observes that, when inflammation occurs in these structures, the clear albuminous fluid which they secrete undergoes various modifications. At first, the fluid becomes thinner and more sparing than natural, and when examined a crackling sensation is found in the part. If the bursæ be deep-seated, considerable pain is caused, and may give rise to some obscurity in diagnosis. There are sometimes found, especially in the synovial thecæ of the flexor tendons of the wrist, numerous hard fibro-cartilaginous bodies, like millet seeds. These have been called hydatids, but are, the author observes, growths from the vascular fringe of the membrane, which though pedunculated in the first instance, eventually float loose in the cavity.

The most frequent situation of these enlargements is the synovial sheath which invests the flexor tendons of the fingers and extends under the annular ligament of the wrist. When distended by fluid, it produces a considerable elevation, which is often constricted and divided into two parts by the annular ligament of the wrist. The walls, when laid open, are found to be thicker than natural; the lining membrane is rough; the fluid contained within is opaque, yellow, or yellowish brown, and thick, and it frequently contains those small bodies above mentioned, which are smooth externally, and often hollow; some, however, are solid, of fibro-cartilaginous structure, and resemble grains of rice in general appearance. The cyst, when minutely examined, is generally found thickened and of fibrous structure; externally, it is connected to the parts around by loose areolar tissue. Internally, it presents a velvety or roughened appearance, and there proceed from it numerous fringes, of which

some are pedunculated. Embedded in these fringes are sometimes those hard white bodies, which are frequently found free in the sac; some of them are elongated and seed-shaped, others flattened and triangular, or round. The smaller are generally solid; the larger contain a cavity. These bodies were described by Dupuytren as hydatids; and the term "hydatiform" has been applied to the bursal swellings about the wrist, under the idea that such parasites were the cause of the enlargement of the sac, and of the collection of fluid. Deviations, both in the quantity and in the consistence of the synovial secretion, may produce a peculiar condition of these fibro-serous canals, which yield upon pressure a crepitating or crackling sensation. This sound may be heard in whatever region of the body fibro-serous grooves naturally exist. It is commonly heard in the region of the shoulder-joint, where it is connected with a morbid condition of the sheath of the long tendon of the biceps flexor cubiti. The same sound has been heard about the tendons of the hamstring, and behind the internal malleolus in the sheaths of the flexor muscles of the foot; behind the external malleolus along the course of the tendons of the peronei muscles and those upon the instep, and in other parts.

Although violence is often assigned as the cause of this affection, its origin, in the greater number of cases, is obscure. The author thinks that it is more likely to depend upon the influence of some constantly acting source of irritation than on any sudden injury, and that the symptoms which usher it in support this view. At times, there is at the commencement acute pain, which, however, gradually subsides when the part is at rest, and is excited only upon movement. But more commonly there is little or no pain felt by the patient, until he makes a greater effort than usual, when the attention is for the first time directed to the part. Upon awaking in the morning, the part is stiff, but the stiffness goes off after a little exercise. There is rarely either heat or redness; the latter is generally secondary, and referable to accidental rubbing and friction. There is always some amount of swelling, the form of which depends upon the natural connections of the part affected. If the disease occur in the sheath of the extensor ossis metacarpi and primi internodii pollicis, the tumour extends obliquely across the lower part of the forearm, from the ulnar to the radial side. If it affects the radial extensors, the swelling, wider below than above, passes over the inferior and outer part of the broad extremity of the radius. In severe cases, the stiffness of the limb, the sensation of weakness, and the pain upon movement, are so considerable, that a man is unable to follow his employment; and, in the higher ranks of society, accomplishments, such as instrumental music, which require great freedom of movement, have to be suspended, or, indeed, entirely given up.

The manner in which these tumours show themselves, is as obscure as their etiology. Sometimes a peculiar creeping sensation is experienced down the fingers, wrist, and forearm; at other times there is stiffness, weakness, and difficulty of movement. In other cases, it is the tumour which first attracts the patient's attention; and the symptoms above related are felt only at intervals, and after any greater exertion than usual. The shape of the swelling, as it affects the large bursæ mucosæ surrounding the flexor tendons of the fingers, is variable; sometimes it commences in the palm of the hand, at other times in the lower part of the forearm; and in both instances it soon becomes bound down by the annular ligament. Indolent and painless upon pressure; fluctuating, and presenting irregular projections, it appears as a bilobed mass, upon which the fingers have an involuntary tendency to close. If the contents be steadily and forcibly squeezed downwards towards the hand, a movement may be communicated to the fingers, along whose thesæ the fluid is pushed. And during this examination, when the fluid is pressed backwards and forwards from one end to the other of the enlarged sac, a peculiar *frottement* is felt, upon which Dupuytren laid great stress as a diagnostic symptom.

The pain and sensation of weakness produced by such a tumour are so great, that the limb soon becomes useless; the fingers are permanently bent, and any attempt to extend them excites a dragging sensation along the entire cyst.

The diagnosis of these tumours is not easy, but, in the author's opinion, a satisfactory decision may be arrived at by the fact of fluctuation, or, if that is absent, by the crepitation before alluded to. Important aid is also rendered by a consideration of the anatomical connections of the bursal tumour.

As regards *treatment*, the author states, that it is customary, in the chronic cases, to employ counter-irritants, such as blisters, irritating ointments, &c. The emplastrum ammoniaci cum hydrargyro, spread upon leather, may be applied to the limb, and secured by a firm bandage; the whole to be worn for several weeks. If the fingers are stiff, friction of the limb and passive motion may be resorted to, when the swelling has in great measure disappeared, and the fluid is nearly absorbed. The arm may be soaked and rubbed in a warm arm-bath daily. When the limb is immersed in a heated fluid, much greater force may be used with impunity, than under the ordinary circumstances.

The operations which have been recommended for the cure of these synovial tumours are the following: Extirpation; incision, either simple or combined with irritation of the surface of the cyst; subcutaneous puncture; and iodine injections.

As regards extirpation, it is extremely difficult, on account of the extent of the connections of the sac.

The author generally makes an incision longitudinally through the most prominent part of the swelling, and evacuates the contents. Some amount of inflammation usually supervenes; and the cavity becomes obliterated in the usual manner. But there is a risk of the inflammation proving very severe, and extending along the muscles of the forearm, attended with a high degree of fever and constitutional disturbance. Death has ensued from such an attack; and in other cases, in which the inflammation has been subdued by active treatment, the mobility of the fingers has been permanently impaired.

In mentioning other modes of treatment, the author alludes to Gerdy's plan of subcutaneous incision, but does not approve of it.

#### § IV.—*Injuries and Diseases of the Genito-Urinary System.*

17. *Varicose Lymphatics of the Prepuce.*—M. BEAU, of the Hospital Saint-Antoine, describes the above-named affection as situated under the mucous membrane on the internal and lateral aspect of the prepuce, in the lateral folds of which it is hence concealed. To see it, it is necessary to render tense the integument of the penis; it then appears under the form of a small round cord, quite transparent, from one to three millimètres in diameter, and one or two centimètres in length. This cord is resistant and hard; it cannot be compressed, nor can the transparent liquid which it contains be squeezed out. Its *dorsal* extremity is situated near the median line of the dorsum of the penis, and terminates insensibly under the skin, so that it can scarcely be felt. The *frenal* extremity is near the *frænum præputii*, and ends abruptly in the mucous membrane; but it is not easy to perceive the lymphatic vessel, which is a continuation of the dilated portion. When the cord is pretty long, it presents a sort of intersection, probably denoting the presence of a valve; for, when it is pricked, only that portion on one side of the valve is emptied. The fluid is perfectly limpid: it reappears two or three days after the vessel has been emptied by puncture. The lymphatic varix first appears suddenly, after excessive irritation of the prepuce, as in coitus. It then disappears in a day or two; but returns on a renewal of the cause, and soon again disappears. It at length becomes permanent, and the cord is as large as a pigeon's quill. The affection does not produce any serious consequences.

The treatment varies, according as to whether the disease is intermittent or continuous. In the first case, it will be removed by astringent or tonic lotions. If it is continuous, a needle, armed with a thread, must be introduced into the frenal extremity, and brought out about a centimètre beyond. The pain produced is very slight. In three or four hours the thread may be removed, sufficient inflammation having been produced. The cord is then swollen, somewhat tender, and opaque. It gradually decreases; and disappears in two or three

months. If the thread be introduced at the dorsal extremity, the frenal end still remains dilated, and the operation has to be performed over again.\*

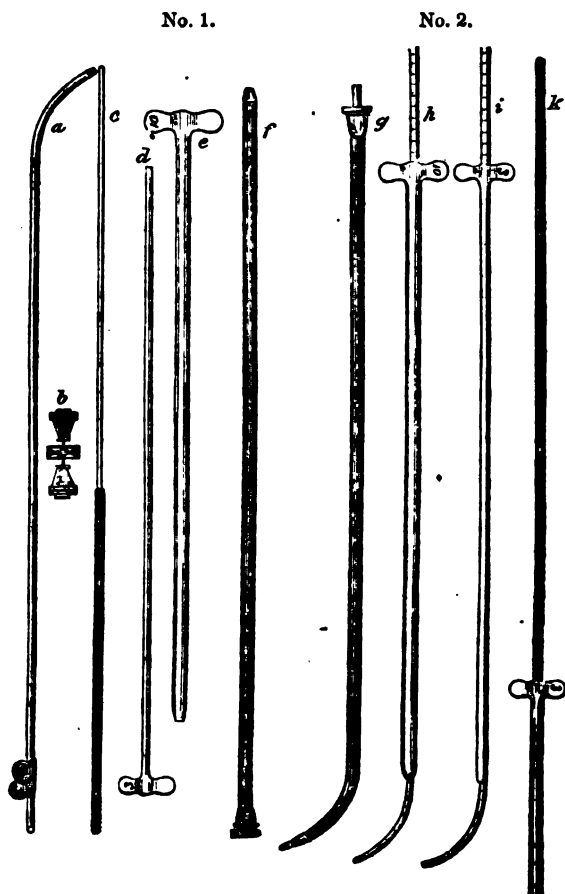
18. *Stricture of the Urethra*.—Mr. WAKLEY's *Instruments*.—By some oversight the mention of these instruments was omitted in our last Report, an omission we now proceed to remedy.

The instruments in question, of which we append an illustration, consist of the following parts:—

Fig. 1, (a.) The catheter complete, thirteen inches long.

(b.) The thumb-slide separate, which screws closely upon the catheter, to which it acts as a handle. Its use in guiding the point of the catheter is evident. It is removed when the index-rod is screwed on.

(c.) A steel rod, which passes into the catheter as far as the screw, at which point both are united by two or three turns of the rod. By the attachment of



the rod an addition of five inches is made to the catheter; the rod and catheter combined form the index-rod for the silver or elastic tubes.

(d and e) are two silver straight tubes, of which there are eight of graduated

\* *Revue Medico-Chir. de Paris*, January, 1851, as quoted in "*Archives G n rales de M decine*," May, 1851.

sizes: the first is only one size larger than the index-rod, and the others regularly increase in circumference, corresponding with the numbers of the ordinary bougie. These tubes are nine inches long, are of a conical shape at their distal extremities, and are so constructed as to fit, with extreme exactness, the surface of the index-rod. They slide with the most perfect ease along that guide, and being directed by it if the catheter be through the stricture, the tubes cannot take a wrong course or make a false passage, but must pass along the index-rod.

(*f*.) An *elastic tube*, composed of a flexible metal, covered with elastic gum fabric. This combination gives to the instrument very considerable strength, without rendering it clumsy or bulky. The extremity of each of these flexible tubes has the same form as that of the silver tubes, and fits with perfect accuracy the surface of the index-rod. There are sizes of the elastic tubes corresponding with those of the silver tubes.

Fig. 2, (*g*.) is an elastic metallic tube, running upon the directing catheter, and taking its curve.

(*h* and *i*) are tubes shown as they slide upon the directing rod.

(*k*) is the upper part of *h* and *i*, viz., the steel rod screwed into the catheter (*a*), with the silver tube (*d*) running over it.

The mode of using this instrument is thus described:—

"The catheter is to be gently introduced through the contracted urethra into the bladder. The stilet should then be withdrawn, and the operator being assured, by the escape of urine, that the instrument is in the bladder, must then insert the smaller end of the steel rod into the catheter, and, having secured it by making two or three turns of the screw, remove the thumb-slide, and then pass No. 3 silver tube upon the index-rod right through the stricture. This tube being withdrawn, the others may be all passed in a similar manner. After the last metallic tube has been withdrawn, the command gained over the urethra is to be preserved by passing one of the elastic tubes over the index-rod. The flexible tube being in the bladder, the index-rod is to be withdrawn through it. The tube may be left in the bladder, if required."

19. *Treatment of Stricture by Potassa Fusa*.—In a pamphlet reprinted from the "Medical Times," Mr. WADDE strongly advocates the advantages of the potassa fusa in stricture; as first brought into notice by Mr. Whately. Mr. Wade's observations on the subject are to the following effect:—

"I am convinced, (he remarks,) that the excellent effects of this caustic in the cure of stricture are but little known to the generality of surgeons. It was in impermeable strictures that I first had recourse to caustic potass, and very soon became convinced of its superiority to nitrate of silver in such cases. I found that, to be effective in old, hard strictures, it was necessary to employ it much more freely than was recommended by Whately, and that this might be done with perfect safety. The caustic potass may be advantageously applied to strictures for two purposes; one to allay irritation; the other to destroy the thickened tissue which forms the obstruction. When used in the minute quantity employed by Mr. Whately, I believe its action to be simply that of allaying irritation, as, when mixed with lard and oil, combined with the mucus of the urethra, it can scarcely have any effect beyond a mild solution of caustic, which most probably causes a more healthy state of the lining membrane of the stricture. To insure the action of the potass, instead of being below the level of the whole of the bougie, it should be fairly exposed, having its points slightly projecting. The bougie should be marked as directed by Mr. Whately; and if the points of the caustic be covered with lard, there need be no fear of its acting before it reaches the stricture. When used in small quantity, of the size of a common pin's head (and less is seldom of any use), unless a stricture be very irritable, its application usually causes nothing more than a slight sensation of heat, scarcely amounting to pain. The bougie should be gently pressed against the stricture for a minute or two, if impermeable, and then withdrawn. When the caustic is applied to permeable obstructions, the bougie should be passed three or four times over the whole surface of the stricture. To impermeable strictures, the caustic should be applied with greater caution than to

such as are permeable! for, should retention of urine occur, it will be more easily relieved in the latter than the former. It usually happens that after one or two applications of the caustic, the bougie will be found to enter the obstruction. Before applying potassa fusa to impermeable strictures, every precaution should be used to guard against irritation. If convenient, the application may be made at bedtime; and should the patient have been subject to rigors or retention of urine, it will be best to administer an opiate injection about an hour before the operation. Contrary to what is generally supposed, potassa fusa, from its forming with oil and mucus a slimy, saponaceous compound, admits of being more easily confined to the strictured portion of the urethra than the watery solution caused by the application of the nitrate of silver. This is one advantage in favour of the caustic alkali. Another, arising from this miscibility with oily substances, is, that its action can be better regulated than that of the nitrate. It may either be used as a mild stimulant or as a powerful caustic. It appears to me, however, that the principal superiority of this caustic to the nitrate of silver, in the treatment of stricture, consists in its more powerful effect in removing hard strictures, and that with perfect safety, and comparatively with but little pain. It has been previously stated, that when used for the destruction of hard, gristly strictures, it must be more freely applied than recommended by Whately; but the quantity should be very gradually increased, and regulated according to its effects. Some of the accidents caused by the nitrate of silver, when used for the destruction of strictures, have arisen either from the slough which it produced having so completely obstructed the previously contracted channel as to cause retention of urine; or, on its separation, hemorrhage to a considerable amount. From the tendency of the nitrate of silver to produce adhesive inflammation, it is probable that the coagulable lymph, caused by its free application, may form no slight barrier to its destructive effects. This tendency, I think, may in some degree account for the great number of applications of this caustic which were required in some of Sir Everard Home's cases.

"Potassa fusa, when used for the destruction of a stricture, instead of causing a solid slough, appears to exert its salutary effects by a process of inflammatory softening and dissolution of the thickened tissue forming the obstruction. A sufficiently free application of this caustic, to be effective in old hard strictures, is usually followed by more or less of a slimy muco-purulent discharge, at first generally with an admixture of blood, but soon becoming of a dirty-white colour. The term abrasion, used by Mr. Whately, is not certainly the most appropriate to signify the effects of the caustic potass in the removal of strictures, for its action cannot be regarded as mechanical. The term appears to have been intended by him to express a slight solvent effect upon the surface of the stricture. Probably the best explanation of the action of these two caustics, when applied for the destruction of strictures, is, that the nitrate of silver causes a slough often sufficiently solid to obstruct the passage of the urine, whilst the more solvent effect of the potassa fusa is quickly followed by a thick slimy discharge of the tissues which it has destroyed. The good effects of potassa fusa are often strikingly manifested in highly irritable, very vascular strictures, which readily bleed upon slight pressure by the bougie. In many such cases three or four mild applications of the caustic will often be found to remove both their irritability and hemorrhagic disposition, so as to render them easily dilatable. In strictures strongly predisposed to spasm, if not firm and of long duration, it will be best to apply the potass at first in such small quantities that its action may be merely that of a powerful stimulant, which may remove their morbid irritability sufficiently to permit of their subsequent dilatation. I believe, however, that, in the majority of such cases, where the disposition to spasm is strongly marked, the caustic must be used in sufficient quantity to destroy the irritable surface of the obstruction. When a stricture has been so far removed by the application of potassa fusa as to admit the introduction of a middle-sized bougie, it will be best to discontinue the use of the caustic, unless there should be difficulty in the subsequent dilatation, when an occasional application of the caustic will often be found serviceable. If potassa fusa be used with proper caution, it will not cause

bleeding of any consequence. Where patients are predisposed to rigors, they may occasionally occur after the application of the potash; but the unarmed bougie, it must be recollected, in such constitutions, will often have the same effect. In truth, the application of the caustic alkali has generally a remarkable effect in preventing the occurrence of rigors. Two or three applications have frequently so much relieved the irritability of the bladder attending bad cases of stricture, that patients have very frequently called my attention to this improvement in their condition, which has taken place often some little time before the bougie has passed through the obstruction. Instead of being obliged to rise every hour or two in the night to pass urine, as was the case previously to the application of caustic, they have only been disturbed but once or twice for that purpose. In two cases of impermeable strictures lately under my care, in which rigors had frequently occurred from the introduction of the bougie, they happened but once during my treatment, and that was, in each patient, a few hours after, by the use of potassa fusa, I for the first time succeeded in passing an instrument through the obstruction. The administration of an opiate will, however, in general, prevent the occurrence of rigors. The cases in which I have found the potassa fusa advantageous, may be generally described as: 1st. Strictures having a cartilaginous hardness, and impervious to instruments; 2dly. Strictures of long standing, which, although admitting the passage of a small bougie, bleed more or less freely on its introduction; 3dly. Irritable strictures. My views with regard to this method of treatment differ materially from those of Mr. Whately. I do not use the potassa fusa in all cases indiscriminately; but only in such as do not yield to simple dilatation. I have found it necessary to employ the caustic alkali, in many cases, in larger quantities than he recommended; the minute portions used by him having produced scarcely any perceptible effect upon strictures; which, however, yielded to its more free application. I have also found that the caustic may be advantageously used at shorter intervals than advised by that gentleman, which is frequently of no slight importance, especially to patients who have to come to London for treatment. I generally, as before mentioned, discontinue the use of caustic as soon as a stricture will readily yield to ordinary dilatation. As a general rule, it will be best to commence the use of potassa fusa in very small quantities, of the size of a common pin's head, especially in impermeable strictures. Very great care will be required in applying caustic of any kind where there are false passages; and, in such cases, if the obstruction be beyond the straight part of the urethra, I use a curved canula for that purpose. Wherever false passages are known to exist, and where instruments have been regularly passed, before commencing the use of potassa fusa, the patient should be kept as quiet as possible for four or five weeks, by which time the false channels may have healed, or become so much closed as to be avoided with tolerable caution. Obstructions in the curved portion of the urethra, although requiring much care in the application of caustic, will usually be found more readily to yield to that remedy; or, indeed, to any other method of treatment, than when situated in the straight part of the canal. Except obstructions caused by severe injury of the urethra when it has been forcibly pressed against the pubes, there are none, according to my experience, more difficult of management, whatever means may be employed, than hard, tight strictures of long standing, within the first four or five inches from the external orifice of the canal. In such strictures there is often considerable induration of the corpus spongiosum surrounding the obstruction, forming a firm zone of highly elastic tissue, which, although admitting of being stretched to a certain degree, yet, if further dilatation be attempted, irritation will ensue, and the contraction become worse. Where there is so much condensation of the corpus spongiosum, it cannot be expected that potassa fusa, or any caustic, can be safely applied for its entire destruction; but a few mild applications of the potash will often so much lessen the irritability of the stricture as to permit the introduction of a moderate-sized bougie, so as to afford relief from all the more troublesome symptoms of the disease. It is fortunate that cases of this description are comparatively of very rare occurrence; but it is as well to know that there are such, which, whether you treat them by dilatation simply, by caustic, or by



cutting, have so strong a disposition to recontraction as to defy human skill to cure them. Some pains should be taken to ascertain the precise point to which these strictures will admit of being stretched without irritation, and then, the bougie having done all the good it can, should not be increased in size. Strictures in the straight part of the urethra, which consist principally of thickening of the mucous and submucous tissues of the canal, with but slight induration of the spongy portion, are as easily removed by potassa fusa as those of the bulb."

Mr. Wade supports his views by several illustrative cases.

20. *The Perineal Section.*—The merits of this operation are still a matter of dispute; but it cannot fail to be acknowledged, from the testimony of cases recently published in the "Monthly Journal of Medical Science," by Mr. SYME, that it is a safer and more successful operation than some surgeons, both in Edinburgh and London, are willing to allow. Time will, we believe, definitively pronounce in favour of Mr. Syme's views of the operation; but as the question at present stands, it is so mystified and distorted by personal bias, that an impartial reviewer must of necessity feel a difficulty in coming to any decided opinion. We shall, however, make it our business to notice the *practical* evidence which may be adduced on either side, and hope thus to be able to give our readers the opportunity of forming their own judgment on the matter. (*Vide* Art. 51.)

21. *Calculus.*—Dr. ELLIOTT HOSKINS calls attention to the possibility of dissolving calculi by injections into the bladder. The injections which he particularly advocates consist of solution of the nitro-saccharate of lead; of this, one grain mixed with five drops of strong acetic acid, is added to each ounce of water. From four to eight ounces are thrown in by a double flexible catheter each time, and renewed every ten or fifteen minutes. This solution, he says, exerts strong solvent action on phosphatic calculi.\*

22. *Prostate Gland, Diseases of.*—A monograph on the anatomy and pathology of the prostate gland, by Mr. ADAMS, surgeon to the London Hospital, will be found to be a very acceptable addition to surgical literature; the diseases of which it treats being frequent in occurrence, and important both in their immediate and remote effects upon the economy. The subject is introduced by a minute description of the anatomy of the gland itself, its relative positions, and its function; after which, the diseases to which it is liable are discussed in the following order:—

*Prostatitis.*—When we consider the close connection of this gland with the bladder and urethra, we can understand its readily participating in irritation arising on either side. Accordingly, we find that it frequently becomes involved in gonorrhoeal inflammation, or in inflammation of the neck of the bladder from any cause. When the prostate is inflamed, a train of symptoms set in closely resembling those of inflamed neck of the bladder, but more intense, and somewhat modified in its phenomena. Thus the gonorrhoeal discharge, which may have ceased when the neck of the bladder alone is implicated, sometimes reappears as soon as the irritation reaches the prostate, but under an altered form, being more thin and gleety; a few drops of blood may also attend micturition or straining at stool. There is more or less pain in the perineum, with frequent desire to pass water. In some cases, one or other testicle becomes inflamed, or the spermatic cord is swollen and painful. Examined per anum, acute pain is felt, and the gland feels tumid, hot, and throbbing. In the latter case suppuration is portended.

In chronic prostatitis, the symptoms undergo considerable alteration. There is no fever, but there is still perineal pain. A slight gleety discharge is present, increased by indulgence in stimulants or venery. This condition is the precursor of permanent hypertrophy of the gland, but by proper treatment all evil consequences may frequently be avoided.

\* London Journal of Medicine, Oct. 1851.

We omit the author's description of the treatment of prostatitis, both acute and chronic, and pass on to a subject of great importance, viz., the participation of the organ in the pathological conditions which give rise to spermatorrhoea. This affection, according to the author, may depend on two distinct pathological states, one chronic prostatitis, the other a simply irritable condition of the membranous portion of the urethra, the result of too frequent stimulation by unnatural means. He does not entirely admit the views of Lallemand, more particularly in reference to diurnal pollutions, being skeptical as to the escape of the seminal fluid with the urine. In the treatment, however, he follows that author in his commendation of cauterization of the urethra, with Lallemand's caustic bougie.

The next affection alluded to by Mr. Adams is *Irritable prostate*. This is characterized by pain in the perineum, testicles, and cord, itching of the anus, with frequent micturition, and slight mucous discharge from the urethra. In old standing cases, the orifice of the urethra presents a peculiar appearance, having lost its natural outline, and exhibiting a patchy redness round the orifice. Under the improper use of exciting medicines, the discharge sometimes becomes purulent, and the patient is often supposed to be labouring under gonorrhoea.

In the treatment of this affection, the author interdicts all stimulating medicines, as copaiba, cubebs, and infections. Cupping on the perineum, warm hip baths, and alkaline mucilaginous drinks, followed by Chian turpentine, form the basis of his treatment.

One of the most important chapters in Mr. Adams's book is that on Hypertrophy of the prostate. This affection commonly shows itself after 50, but is often so insidious in its approaches that it has advanced to a considerable extent before it is recognized. The symptoms are thus described:—

"After such causes as may be supposed likely to produce the disease in question, as a too free indulgence in venery and the luxuries of the table, the patient complains of a slight sense of uneasiness about the region of the bladder, with pains shooting to the loins, down the thighs and into the groins and to the extremity of the penis; this is usually attended with but little disturbance to his general health, and is attributed to rheumatism or some other simple cause. This is a condition in which the surgeon is often consulted, and he not uncommonly favours the idea of the patient, and prescribes an ordinary diaphoretic with a purgative and warm bath, by which the symptoms are either palliated or altogether removed for a time. If the patient still abstains from the indulgences before mentioned, he possibly may be completely relieved for a considerable period, and on the recurrence of a similar train of symptoms may have forgotten the previous attack. However, it usually happens that the symptoms return with some slight increase in intensity, when little or no relief is experienced from the use of the simple measures alluded to: he now observes, for the first time, that he has a more frequent desire to pass his water than usual, and that he voids but little water at a time; and that what he passes does not flow quite so freely as formerly; but still it comes in a stream, and is passed with force and without effort. In this condition he again seeks advice; perhaps simple measures are prescribed, but without relief; the desire to micturate increases in frequency and intensity, and he is called up repeatedly, especially at night, to pass his water, which, however, comes but in a very small quantity indeed, and is expelled by a sort of ejaculatory effort. His pains are now exacerbated, he becomes feverish, his tongue is a little furred, and his hands feel hot and dry, but he is not incapacitated from following his ordinary occupation; his clothes are constantly wet by the dribbling of the last drops of urine, or by the frequent escape of water from the bladder, the smell from which is ammoniacal and exceedingly offensive; the expression of his face is anxious, and presents an appearance characteristic of urinary disease. To this condition, if unrelieved, succeeds a train of symptoms of increased intensity and of imminent danger; thus the frequent desire to make water increases, the quantity passed at each effort diminishes, until at last he is unable to pass a single drop, and now labours under a complete retention of urine. It almost invariably happens that the stream of urine gradually diminishes in force, and that, instead of being

expelled, it rather runs over and dribbles away; sometimes he can pass it in a stream in very small quantities, but obviously never completely evacuates his bladder."

The author draws particular attention to the condition of the urine in the different stages of the disease, as well as to the anatomical lesions exhibited by the bladder. Among these he speaks of changes of capacity, formation of vesical pouches, and rupture of its coats. The morbid anatomy of the gland itself is minutely described. The gland becomes enlarged in all its dimensions. Its outer surface is smooth, or irregular and nodulated. All the lobes are usually implicated, the third or middle lobe frequently being involved in a higher degree than the lateral lobes. The enlargement is frequently accompanied with induration, which has given rise to the term *scirrhus* prostate. The results of this change in the dimensions of the gland are described by the author with great accuracy. Thus, independently of nervous radiating pains in the thighs, loins, and sacrum, it has a sensible influence in the urethra, bladder, and rectum. The urethra is stated to be increased in length, and its diameter increased, while other changes in shape and course ensue, which are familiar to the practical surgeon.

The cause of this senile enlargement of the prostate is considered by the author to be obscure; nor is it, he thinks, at all explained by the morbid anatomy. He is himself disposed to regard it as in some manner connected with the changes which the genital organs undergo at the decline of life, and to depend chiefly on continued venous congestion, kept up frequently in those in whom the disease occurs by the over-stimulation of the almost extinguished generative powers.

In the treatment of enlarged prostate, the author properly lays great stress on early and complete examination of the part. If this displays congestion of the prostate, the object is to remove this, and, at the same time, to render the urine less stimulating. The author advises cupping on the perineum or sacrum to ten ounces; hip-baths night and morning; and free action of the bowels. If, on the contrary, positive enlargement is detected, a different line of practice is required. The first thing to be done is to relieve the distended bladder by the use of the catheter as frequently as circumstances seem to require. Leeches, or other active antiphlogistic measures, are, in the author's experience, either useless or injurious. He also deprecates the use of opium to allay the irritability of the bladder, as it has a tendency to increase the torpor of the cerebral functions, to which there is a sufficient tendency. The use of iron he also thinks injurious, as it tends to irritate the bladder, and may add the symptoms of inflammation to those already existing.

The author here glances at the treatment of the retention of urine from enlarged prostate, and the hemorrhage which is a frequent attendant upon it; under the former head, the reader will find a thoroughly practical exposition of the uses of the catheter.

The remaining diseases of the prostate gland, considered in Mr. Adams's volume, are: *scrofulous* prostate, malignant disease of the gland in the form of *scirrhus* and *fungatodes*, prostatic calculi, and neuralgia of the prostate. He has also a concluding chapter on the dilatability of the organ.

Of neuralgia of the prostate, the author informs us that it gives rise to a train of symptoms so similar to those of organic disease, that a diagnosis is often extremely difficult. A well-marked case is related, the treatment of which does not appear to have been satisfactory.

In concluding this imperfect sketch of Mr. Adams's treatise, we have no difficulty in commending it to our readers as a safe and accurate guide to the diagnosis and treatment of the diseases of this important region.

**23. Tuberculous Testicle.**—The French Academy of Medicine has been recently occupied in a long discussion upon the treatment of tuberculous testicle, arising out of a Memoir by M. Malgaigne, proposing a novel operation. Fistulous ulcers of the testicle are, according to the author, almost invariably the result of tuberculous softening of the organ, and appear under two forms. In one the ulcer is large, and the suppurating surface is on a level with the skin,

forming the non-malignant fungus of the testicle described by English writers. In the second form, several simple fistulous openings are seen in the scrotum with inverted edges, and leading either separately or after inoculation to a deeply-situated fungus, similar to that above alluded to. To remedy the first species of ulcer, several plans have been advised, such as compression, astrin-gents, escharotics, ligature, excision, and autoplasty, or covering in the fungus by the integuments of the scrotum. In the second variety, different opinions exist as to the proper treatment, some surgeons recommending caustic injections, others seton, and some castration. It is to replace the latter severe measure that M. Malgaigne proposes to remove together the diseased integument and the softened portion of the testicle, endeavouring also to obtain union of the edges of the incision, by first intention. In many cases this is tantamount to castration, but the author thinks the moral effect upon the patient is not so painful as when the organ is entirely removed.

An animated discussion followed the reading of this paper, in which MM. Roux, Velpeau, and Robert took part. M. Roux objected that the author had confounded several different lesions under the same category; for instance, fungus of the testicle and tuberculous testicle, which he considers to be different diseases, the one seldom or never affecting both testicles, the other frequently doing so. He also expressed his opinion that the operation proposed by M. Malgaigne was much better than castration, and that, as the organ was generally disorganized, there was no reason for preserving any portion of it, if an operation was decided upon. M. Roux is not, however, a great advocate for operating, as the disease often remains stationary, and may even get well under appropriate treatment. Much the same sentiments were expressed by MM. Velpeau and Robert.\*

—Mr. COOPER (op. cit. p. 622) discountenances operative measures in tuberculous fungus of the testicle, giving the preference to constitutional measures, especially the use of mercury in the form of the iodide. To the ulcer he applies black wash.

24. *Treatment of Bubo.*—We have received a pamphlet by Mr. MILTON, having for its object the introduction of a plan of treating bubo, from whatever cause it may arise, so as to prevent suppuration. In the author's hands, resolution is said to have been produced in all cases submitted to him sufficiently early. This treatment consists in the exhibition of tartar emetic in the same manner as in pneumonia, by grain doses repeated every two or three hours. The local treatment used conjointly is either hot water, cold lotions, or ice. Mr. Milton candidly owns that his opinions are received with doubt by his professional friends.

### § V.—*Injuries and Diseases of the Abdomen.*

25. *HERNIA—Reduction "en Masse."*—Our former volumes contain numerous notices of the reduction of hernia *en masse*; but we return to it in the present report to mention two communications of merit. The first of these, a pamphlet, "On the Reduction of Strangulated Hernia en Masse," by Dr. GEORGE BLACKMAN (briefly mentioned in our last Report), gives a most comprehensive *resumé* of the subject, and is deserving of careful study.

The reduction of hernia, "*en masse*," may occur either: 1. As a disease of the taxis. 2. By detachment and reduction of the sac during the operation, the sac having been mistaken for the intestine. 3. It may occur spontaneously. The author has been at the pains to collect, he believes, all the recorded cases under each head, of which he gives the following summary:—

Of 48 cases, 36 were inguinal, 4 femoral, 2 neutral, and in 6 the situation is not mentioned.

*Age.*—In 19 only is the patient's age recorded, and in these it was as follows: 50, 40, 18, 13, 40, 55, 47, 68, 50, 30, 40, 42, 75, 30, 55, 59, 61, 75, 79.

*Duration of Hernia.*—In 18 cases, it is said to have been of "many years;"

\* Archives Générales, Août. *Révue Méd. Chirurgicale*, Sept. 1851.

in 3, "several years;" and 1 was described as being an "old one;" 1, "congenital;" and the rest as follows: 12, 11, 54, 20, 30, 20, 30, 5, 12, 30, 40 years.

*Sex.*—In 27 cases in which this is noticed, all but 4 were males.

*Size of Hernia.*—In 20 cases where it is mentioned, 8 were "large;" 5, size of "hen's egg;" 1, "turkey's egg;" 1, "pigeon's egg;" 2, "large walnut;" 1, "good-sized pear;" 1, half the size of "one's fist;" 1, "not small;" 2, "small;" 1, "scrotal."

*Facility of Reduction.*—Of 26 cases in which the circumstances connected with the reduction are recorded, 13 are said to have been returned easily, quickly, "without difficulty," by the patient; whilst in 14 it was only effected "after some attempts," "after many attempts," "with difficulty," and after the use of "the warm bath and bleeding."

*Result of Operation.*—20 cases were subjected to operation, of which 11 recovered, 1 is supposed to have recovered, whilst 6 died from peritonitis, effusion of fecal matter, from gangrene, and in 2 cases the stricture was found undivided.

*Spontaneous Cure.*—This occurred in 1 case only.

*Reduction of Sac during Operation.*—Under this head the collection embraces but 9 cases, 7 femoral and 2 inguinal. Velpeau, it will be remembered, states that he has become acquainted with 15 cases of this kind, but we give the number only of those which we ourselves have been enabled to collect.

*Result.*—5 proved fatal, 3 recovered, and 1 not stated.

*Spontaneous Reduction.*—Variety, crural; age 61; duration 28 years; size of hen's egg; operation successful.

*Diagnosis.*—Many circumstances, the author observes, interfere with the formation of a correct diagnosis, where symptoms of strangulation continue after the reduction of a hernial tumour. The intestine may be returned, and the stricture yet maintained by the omentum which forms a kind of sac inclosing the bowel. Such cases are related by Scarpa, Callisen, Richter, and more lately by Mr. Prescott Hewett ("Med.-Chir. Trans.," vol. xxvii., 1844). Mr. Callaway also records a case ("Lancet," 1829).

The symptoms directing reduction "en masse" are said by Mr. Robert Wade to be: the absence of that fulness of the ring and end caused by the presence of the hernial sac, an unusual largeness of the aperture through which the hernia has descended, a fixed circumscribed pain in the neighbourhood of the ring, and, in some cases, a tumour in the same situation. Le Dran, also, after remarking that the persistence of the symptoms of strangulation may depend upon an inflammation of the bowels, &c., &c., goes on to say that if this be the cause, the pain will be felt almost equally throughout the whole extent of the abdomen; but if they proceed from a volvulus, it will be more acute in one fixed and permanent point; and if the reduction of the hernial cyst be the cause, he declares that the surgeon cannot mistake, as he will feel a vacuity under the ligamentum Fallopiannum, or in the ring. Another point he notices of much importance, viz., when the parts are reduced, he will be insensible of the noise generally attending the reduction of a hernia, "the whole tumour passing in a lump under the ligament (if it be crural), like a tennis-ball." This last sign was particularly insisted upon by Arnaud, but, as Mr. Lawrence has observed, the return of intestine, although frequently, is not necessarily accompanied by the peculiar rumbling or gurgling noise which is produced by the passage of air through the strictured part, and, in ordinary cases, it sometimes goes up all at once, so that we should not attach too much importance to the presence or absence of this sign, considered of so much moment by Arnaud and Le Dran. Dupuytren lays great stress upon the two following symptoms, viz., a fixed and circumscribed pain in the hypogastric region, behind the opening through which the hernia has protruded, and the existence of a tumour more or less perceptible in the same situation; but, in one of the cases related by Mr. Luke, on the fourth day after the reduction of the hernia, no tumour could be felt, while, on the eighth day, the infiltration of highly offensive sanious fluid had given rise to a tumefaction in the course of the inguinal canal. If present, the author admits that it would materially aid our diagnosis, but, in some of the cases in his collection, the fundus of the sac was found somewhat remote from the vicinity of the rings, although both Le Dran and Dupuy-

tion asserted that it could not be far distant, as the sac itself is formed by a part of the peritoneum in the immediate neighbourhood of the canal. Indeed, he continues, the closest examination of the patient can afford us but *probable* evidence of the occurrence of the reduction in *mass*; and if called to a case where, after the successful application of the taxis, the symptoms of strangulation still remain, we find the hernial aperture large and empty, the spermatic cord distinct and isolated, even though no tumour can be felt in the vicinity, and though there be no tenderness on pressure, we shall be perfectly justified in resorting to an explorative operation.

*Treatment.*—The author states that our first effort should be directed towards the reprotrusion of the hernial tumour. Sometimes the slightest exertion will suffice; in others it cannot be accomplished without the ring is widely dilated. If coughing, sneezing, jumping, and straining, do not effect the descent of the hernial tumour, the inguinal canal is to be laid open, and, the sac being dragged down, the stricture is to be divided.

Mr. Luke directs that, after the neck of the sac has been divided, during the reduction of its contents, caution should be used for the prevention of that of the sac also, an accident not at all unlikely to occur, in consequence of the breaking up of its adhesions to the surrounding parts. We may easily ascertain that the contents of the sac have been liberated by passing the finger through its neck.

The author repeats the fact that, after a hernial tumour has been returned by the taxis, the patient may still perish with all the symptoms of strangulation, though the sac be empty. The peristaltic action of the intestines may be prevented by the inflammation which their incarceration has produced, or they may still be strangulated by the apertures of the omentum or mesentery through which they have protruded into the hernial sac, and which still embrace them, although reduced. If the exposure of the inguinal canal discovers the empty hernial sac, adhering to the spermatic cord, he says we may reasonably conclude that the patient suffers from one of the causes mentioned; and if the parts affected cannot be reached by the finger, or made to redescend by the efforts of the patient, our only resource will be to make use of the means proper to subdue peritoneal inflammation, if it exists, and to restore the action of the intestinal canal.

The explorative operation will, the author affirms, even from the exposure of the inguinal canal alone, remove many of the obscurities of the case. If, for example, as in one of the examples which occurred to Dupuytren, the patient is unable to give an account of himself, but is labouring under all the symptoms of intestinal obstruction, if the incision of the integuments brings into view an empty hernial sac, the non-existence of the reduction *en masse* will be at once established, and our treatment must then be modified according to the other circumstances of the case. The dependence of the symptoms upon some form of internal strangulation may perhaps be established by the character of the matter vomited, as has been noticed by Dupuytren. He declares that the vomiting of mucous or bilious matter may indicate an irritation, a gastritis, or enteritis, as well as a strangulation, but if it be of a golden yellow colour, having a stercooral odour and a *matière délayée*, there need be no doubt upon the subject. We have taken it, he observes, for granted, that, in the examination of the inguinal canal, if the hernial sac be found at all within it, it will be seen in *front* of the spermatic cord; but it will be well to bear in mind the deviations in this respect which sometimes take place, and which have been described and delineated by Camper, Scarpa, Sir Astley Cooper, Mr. Lawrence, and others. These varieties in the course of the cord and its vessels, however, are so rare, that they can hardly be expected to embarrass our proceedings.

The relative advantages of opening the normal sac or leaving it unopened, in operating, are ably portrayed in a lecture by Mr. SPENCER WELLS.\* In the first place, the author inquires, "What are the dangers believed to depend on opening the sac? Secondly, are these dangers avoided by not opening the sac, in cases where it is possible to divide the stricture without making this open-

\* Med. Times, Dec., 1850.

ing? Thirdly, how far is it generally practicable to divide the stricture without opening the sac? Fourthly, what are the dangers we incur by doing so, or by attempting to do so, and how far do these dangers compromise the safety of the patient, as compared with those which solely arise from opening the sac? Lastly, how shall we decide in any particular case whether to open or not open the sac?

"First, What are the dangers consequent upon opening the sac? We all know the difference between a penetrating and non-penetrating wound of the abdomen; between a case of simple incised wound of the abdominal parietes, and one in which the peritoneal cavity is also opened. We know that the one case is a comparatively trivial and by no means dangerous one, while the other is one of the most serious and alarming nature. A little local uneasiness, and some slight febrile disturbance, are all that usually occur, or can reasonably be anticipated in the one case, while in the other we have a well-known assemblage of threatening symptoms, small, low pulse, pale, anxious countenance, cold extremities, extreme weakness, great pain, vomiting, hiccough, and convulsions. I do not mean to say that in every case of wound of the peritoneum, such extreme effects are produced; but I do say, that, in every case I have ever seen or read of, they were observed to a greater or less extent. I am speaking of wounds of the abdomen, in which the peritoneal cavity is opened, but in which there is neither internal hemorrhage nor escape of feces from a wounded intestine, and I do say that, in all such cases, experience teaches us that the danger of peritonitis is very great, that its occurrence in some degree is almost certain and inevitable. I do not care whether it is the simple injury to the peritoneum which causes it to inflame, or whether the inflammation is caused by the entrance of air. What now interests us is the fact that, whenever the peritoneal cavity is opened by a wound, peritonitis will almost invariably follow, and very frequently to a dangerous degree. Now, in opening a hernial sac, we really make an incised wound of the peritoneum. It may be said, that the sac is a mere process of the peritoneum, a detached portion of the membrane, less liable than other parts to take on inflammatory action. But once open this sac, once divide the stricture, and we have an external wound communicating directly with the general peritoneal cavity, and we as commonly and certainly observe symptoms of peritonitis after such opening and division as after simple penetrating wounds of the abdomen. We see precisely the same symptoms during life, whether the hernial sac be opened by the surgeon, or the peritoneal cavity by accidental injury; and in fatal cases we observe exactly the same morbid appearances after death. It is peritonitis which kills the patient in either case, and in both we find its traces in the effusion of serum and lymph, and in the adhesions of the viscera to each other and to the abdominal parietes.

"Again, when the sac is opened there is danger of hemorrhage and of wounding the intestine. These are of far less moment than the danger of peritonitis, and may be considered as almost nothing when the patient is in the hands of a careful surgeon. If the surgeon examines everything he divides before applying the knife, he can never wound a vessel of any consequence. Indeed, I believe you will have some difficulty in finding a case on record in which a patient clearly died from the effects of hemorrhage after herniotomy. The danger of wounding the intestine is somewhat greater. I have seen it take place more than once when the operation was performed by surgeons of deservedly high reputation. Some sudden twist or start of the patient, some slip of an assistant's fingers, at a critical moment, has brought the edge of the knife in contact with the intestine, and irreparable mischief has been the consequence. The accident is not necessarily fatal, but it adds enormously to the chances against the patient. Unless under very peculiar circumstances, however, it must be considered more as the fault of the operator than as a danger necessarily connected with opening the sac. At the same time it is a danger which is *certainly* avoided by leaving the sac intact.

"There is another danger consequent upon opening the sacs, which I am confident is of far more importance than many surgeons believe—I mean, the entrance of the pus and secretions of the wounded parts into the peritoneal

cavity—blood, serum, and pus, in varying proportions and quantity, are always found for some days about the wound made in herniotomy. In whatever position the patient lies, whether on side or back; however the wound may be dressed, whether stuffed with lint, or left to itself with water-dressing, or sealed hermetically from the air by sutures and strapping, I believe it to be absolutely impossible to prevent the entrance of some portion of the secretions of the wound into the peritoneal cavity, when the cavity and the wound have been brought into direct connection by opening the sac. And I believe further, that the irritation consequent upon this effusion into the cavity, is a frequent cause of fatal peritonitis."

The author continues:—

"You may now see that a surgeon who operated upon every case of strangulated hernia which came before him, by opening the sac before dividing the stricture, would run into one set of dangers; and a second, who never opened the sac, into another series. Either would invariably escape some dangers from which his opponent was free. The one diminishes the danger of peritonitis, and avoids altogether those of hemorrhage, wounded intestine, and entrance of air, or the secretions of the wound into the peritoneal cavity; but he runs the risk of returning the protruded parts while still strangulated, or when in such a condition that their return would be fatal. The other is perfectly safe in these two latter respects, but, although by proper care he may avoid the evils arising from wounds of blood-vessels or intestine, he fearfully increases the risk of the occurrence of peritonitis—the chief cause of death after herniotomy. The question therefore resolves itself pretty nearly into the following terms: Is the risk of returning strangulated parts, in the one operation, equal to the increased risk of peritonitis in the other? or, putting it conversely, Is the risk of peritonitis, consequent upon opening the sac, so great as that of returning protruded parts in a doubtful, strangulated, or gangrenous condition?"

"If we endeavour to arrive at a just appreciation of the comparative amount of these dangers by statistical inquiry into the relative success of the two operations, we are at the very outset of the inquiry met by considerable difficulties. It is very easy to collect a number of cases operated on in one manner and to give the proportion of deaths, as compared with a series of cases operated on after the other plan; but then comes the doubt as to the condition of the patient at the time of operating—whether he was not in such a state that either operation would have been useless, and death inevitable. Doubts will also arise whether the surgeons operated with equal skill and care—whether they treated their patients with equal judgment after operation—or whether there were not circumstances with regard to the age and general health of the sufferers which influenced the result very materially but altogether independently of the effects of either operation. And it unfortunately happens, from the manner in which the results of experience are often recorded, that it is impossible to clear up such doubts. For instance, Dieffenbach, who had probably performed herniotomy more frequently than any other surgeon of any age or country, gives a mere general statement that he lost fifty patients, out of between 650 and 700 operations. He does not state how often he opened or did not open the sac. But the tenor of his writings would lead to the belief that he opened it as a general rule, although, in cases of femoral hernia, he was becoming convinced that it was better not to do so. He gives no sort of numerical statement of his success in connection with this important step in the operation. Mr. Hancock has collected from various sources 474 cases in which the sac was opened. Of these 167 died, or rather more than 1 in 3; but then, on examining into the history of the cases, he came to the conclusion that 103 of them were in such a condition at the time of operating that they must have died whatever had been done. If these 103 cases, then, are taken away altogether from the calculations, the mortality is rather less than 1 in 6, instead of being rather more than 1 in 3. In the same manner he has collected 74 cases in which the sac was not opened, the deaths being 22, or 1 in 3½. From them he deducts 5 in which the patients' death was independent of the operation, and the proportional mortality then appears as 1 in 4. Yet this great mortality under either operation, so frightful, when compared with Dieffenbach's loss of only 1 in 13, is proved to be but too



true by other inquirers. Mr. Luke tells us, that of cases reported in British journals in which the sac was opened, he found *one-half* of the patients died. Malgaigne's report of the Parisian hospitals gives 133 deaths to 220 operations—considerably more than one-half; and, on looking to reports of British hospitals, we find the mortality varying from one-half to 1 in 4. The reports of cases in which the sac was not opened are less numerous; but if we take Mr. Luke's cases, and those recorded by Mr. Teale and Mr. Gay in their works on hernia, we shall not find the mortality to be greater than 1 in 9. In the cases examined by Mr. Hancock, as I told you, he calculates it as 1 in 4; but in those quoted by the other authorities just named, it is not greater than 1 in 9. All this should convince us of the necessity which exists for some exact registry of cases occurring in all our hospitals, so arranged that the results could be easily attainable by any scientific inquirer. If we could only obtain authenticated notices of all the operations for strangulated hernia in the hospitals of Great Britain for one year, we should do a great deal towards the settlement of this important and much-disputed question; and I hope the day is not far distant when some condensed summary, or systematic report, of all cases treated in every hospital, will be published annually. As it is, we must say that the facts before us are not sufficiently numerous to enable us to decide the question upon statistical grounds. We must, therefore, argue it upon other considerations.

"Now, what is the mortality, when we are able to reduce a hernia strangulated, or apparently strangulated, without any cutting operation, by means of the taxis? We all know that it is very small indeed. Mr. Luke gives us an account of 447 such cases, of which only 13 died, or about 1 in 34, and I think if each of us looks to his own experience in this matter, we shall say that this proportion of deaths is quite as great, and probably much greater, than we have ourselves observed. Where then lies the cause of the frightful difference in the result of the taxis, or of the operation by opening the sac; the one, 1 in 34, the other from 1 in 2 to 1 in 6? Simple incision of integuments, and of the fibrous coverings of the sac, could do little towards an unfortunate result. Wounding the intestine is a very rare occurrence. Fatal hemorrhage is scarcely ever heard of. We now and then hear of a hernia being reduced in mass, the stricture still strangulating the hernia; but so rarely, that such a case is talked of as a wonder. And if we put aside those cases of long-standing strangulation, in which the intestine or omentum was in such a condition at the time of operation, that the operation had nothing whatever to do with the fatal result, we find peritonitis to be the cause of death. It is peritonitis we have to dread, and to do all in our power to avoid. We have the full knowledge that a penetrating wound of the abdomen is almost certain to cause peritonitis in a healthy subject, and to ensure it in a case where it is already commencing; and each one should ask himself, before opening the sac of a hernia, shall I make an opening into the abdomen of this patient, and thereby expose him to the risk of peritonitis? If I cannot return the hernia without, I have no choice—I must open the sac; but if I can, shall I run into the danger of peritonitis, rather than incur the risk of returning the hernia unrelieved from strangulation? For my part, I can only say that I would not. I consider the danger of peritonitis *certain*—that of reduction in mass exceedingly small; and where I had the choice, I should never run into a certain or probable danger, even although that were small, to avoid a greater, which was only just within the bounds of possibility.

"This brings me to the last question I proposed to discuss: In operating upon any special case, how are we to decide whether to open the sac or not? and in answering this, I have only time to state a few general maxims, without pretending to discuss them fully. In the first place, then, I would say, look to the time of strangulation as regards the probable condition of the intestine or omentum. Has this been long enough to render the intestine gangrenous?

"Should the general condition of the patient, the state of the tumour, the colour and appearance of the integuments, and, above all, the existence of a fetid odour while making the incisions, favour the supposition of gangrene, then I say, by all means, open the sac and examine the intestine before deter-

mining whether to return it to the abdomen or not. Secondly, I would add, never employ a greater amount of force or pressure to return a hernia, after dividing the covering of the sac, than you would when attempting to return it before such division. You thus avoid the danger of reduction in mass; and should such an occurrence take place, you would be able to recognize it by its suddenness, as compared with the gradual gurgling manner in which a hernia usually returns. In every case, then, in which moderate pressure sufficed to effect reduction without opening the sac, I would most carefully refrain from opening it. Thirdly, I would look upon the operation external to the sac as something between the simple taxis and ordinary herniotomy. When the taxis proved unsuccessful, I would divide the integuments and the fibrous tissues about the seat of stricture, and, provided there were no good grounds for belief in gangrene, I would return the intestine, if the employment of a moderate degree of pressure enabled me to do so. If I succeed, the patient escapes the danger of a penetrating wound of the peritoneal cavity; and if I do not, I can then complete the ordinary operation by opening the sac. I expose the patient to no danger by such trials, and I probably save him from the greatest of all, the dangers attendant upon the operation. I adapt each operation to the cases to which it is suited, and avoid the evils of exclusively following either."

26. *Complications of Hernia.*—Mr. ROBINSON, whose remarks on internal strangulation of the bowels appear in the present volume, gives, in a preceding portion of this valuable essay, an epitome of the chief complications to which external hernia is subject. These will be sufficiently shown in the following conclusions:—

1. Symptoms of strangulation may continue after a hernia has been apparently reduced—the reduction *en masse*, as it has been called. This may be owing to one of two causes; either to the return of the intestine to the upper part of the inguinal canal, and not into the abdomen, constriction therefore continuing at the internal ring; or to the return of the sac, together with the hernia constricted by it.

2. The intestine may be universally adherent to the sac. It is very important to ascertain this, and much may be learned by pinching up the sac.

3. The direction of the vessels cannot be relied upon as a distinguishing mark between the intestine and the sac.

4. Mortification of the bowel may be simulated by the effects of tobacco; and, in doubtful cases, an operation ought to be performed.

5. Mortification of the bowel may be simulated, in some degree, by the collapse of jungle fever.

6. Foreign and irritating bodies may pass through an *irreducible* hernia without any ill effects.

7. The bowel may redescend after operation, may again become strangulated, and again require operation.

8. Strangulation may occur in a person the subject of double hernia; and a doubt may arise as to which is the hernia requiring operation. In such a case, the hernia that has existed the longest, and is most tense, should be the one first subjected to the knife.

9. A hernia may pass in an unusual direction.

10. Peritonitis may be coexistent with hernia, in cases where the latter is in no way implicated as a cause.

11. There may be a reducible hernia in one groin, an irreducible hernia in the other, and peritonitis.

12. Strangulated hernia may occur subsequently to peritonitis. If this could be known, it would be very desirable not to open the sac; if it be opened, and numerous adherent convolutions descend so as to prevent their being covered by the integuments, the gut should be punctured to diminish its contents.

13. Enlargement of the inguinal glands may be combined with strangulated femoral hernia, and cause great obscurity.

14. Strangulated femoral hernia in old, irritable, and weak persons, may be rapidly fatal from collapse, scarcely, if at all, to be distinguished from that which accompanies malignant cholera.

27. *Diseases of the Rectum, Fistula and Hemorrhoids.*—Mr. MARSHALL has introduced a method of operating for these diseases, in which the aid of galvanism is brought to bear. The peculiarity of his method consists in causing a red-hot platinum wire to take the place of the bistoury, the heat being supplied by the action of a galvanic battery. The first patient upon whom Mr. Marshall operated, was the subject of fistula in ano. The operation was performed in the following manner: A battery of six cells was placed close to the operating table; and the conductors were rendered flexible by an elastic tube filled with mercury. The pole held by the operator's hand was in immediate connection with the battery, but on the left side the current could be completed or interrupted by the intervention of a capsule filled with mercury. The extremities of the poles, slightly covered with mercury, were then connected with short holders, to which a platinum wire could easily be fixed, and when the assistant dipped the left pole into the mercury, the wire was seen almost immediately to become red-hot.

Now the great advantage of using the galvanic force in this manner is, that the wire may be disposed upon the affected part whilst cold; it is easily adapted by being flexible, and when it is so placed as to answer the operator's purpose, the circuit is completed, and the effect produced in the direction which the surgeon gives to the wire.

The patient having been put under the influence of chloroform, Mr. Marshall introduced one end of the platinum wire into the fistulous tract, and made it reappear at the anus; the two ends were then connected with the poles, the circuit completed, the wire became red-hot, and was gently brought downwards, dividing all the interposed tissues, and cauterizing them at the same time so effectually as to prevent any amount of hemorrhage. The only dressing used was a piece of lint dipped in cold water applied externally.

Mr. Marshall has found from previous cases, both in private and hospital practice, that the whole tract heals very rapidly from the bottom after the casting off of the eschar, which separation generally takes place in a few days.

The second patient was affected with external hemorrhoids, connected both with the verge of the anus and with the lower portion of the mucous membrane of the rectum, the protruding mass being as large as a pigeon's egg. Chloroform having been administered, the hemorrhoidal tumours were drawn out by a peculiar kind of forceps, and the heated wire slowly drawn across the pedicle of the mass. This was repeated for different portions of the growths, and where a little oozing of blood took place, the wire was made to cauterize the part slightly, which measure at once stopped the flow of blood. Mr. Marshall stated that it was important that the wire should act rather slowly, as a rapid section was likely to allow of a little hemorrhage. The time taken to sever a tumour did not, however, as far as we could judge, exceed forty seconds.

The forceps to which we just alluded were constructed according to Mr. Marshall's directions; they differ from the usual instrument in having a ring about an inch in diameter at the end of each branch; when the forceps are closed, the rings are superposed, and gain a very firm hold of the part to be secured. Mr. Marshall prefers these forceps to the vulsellum.

The third patient was affected in the same manner as the last, the extruding mass of hemorrhoids being, however, somewhat larger and more congested. The operation was conducted precisely in the same manner as in the second case; here, however, either from the congestion being great, or the division a little too sudden, the hemorrhage required the tying of a vessel, which latter was so large that the cautery applied to it could not control the bleeding.

Mr. Marshall took occasion to remark to the pupils that these were tentative operations, and that further trials would be necessary to ascertain in what cases this peculiar mode of simultaneous excision and cauterization was used.\*

28. *Ulcers external to Sphincter Ani.*—Mr. HILTON,† in his lectures on diseases of these regions, divides ulcers into three classes. 1. Ulcers external to the

\* London Journal of Medicine, May, 1851.

† Lancet, May 17, 1851.

sphincter ani. 2. Ulcers within the circle forming the internal sphincter. 3. Ulcers beyond or internal to the sphincter.

The indications for the treatment of the first kind are: 1st, to keep the patient in a recumbent posture, so as to favour the emptying of the hemorrhoidal veins; 2d, to keep the bowels open by mild laxatives. Under these measures the painful sensations are greatly relieved. Benefit is also derived from the local application of equal parts of Unguentum Opii, and Unguent. Hydr. fortius.

The principal remedy for the irritable ulcer, which forms the second variety mentioned by Mr. Hilton, is division of the sphincter. The operation is thus described:—

This operation is proposed in reference to the mode of contraction of the sphincter muscle, which is towards its own centre, and the object in dividing it is to do away with its contraction in that direction for a short time, so as to allow the feces to be evacuated easily, and in this way to allay the irritation caused by their passage, whilst the ulcer, being undisturbed by muscular action, rapidly heals up by granulation. The operation being determined on, it is to be performed as follows: Having ascertained the position of the ulcer, which will most commonly be found to be situated on the posterior part of the rectum, place the patient on his back, or in any convenient position, on a table or bed before you. The speculum should now be introduced with the slide corresponding to that part of the rectum in which the ulcer is situated; when the ulcer is clearly seen, the internal sphincter muscle should be divided from without inwards by means of a sharp-pointed bistoury carried directly through the centre of the ulcer. Some surgeons, however, object to the division of the sphincter by the knife, and recommend the forcible introduction of the finger through the anal aperture, in order to rupture some of the muscular fibres of the sphincter, and so favour the healing of the ulcer by granulation. This operation is very uncertain in its effects, and the author has never yet known it to succeed. Other surgeons advise the introduction of the finger up the rectum, and, having passed the straight probe-pointed bistoury upon it, to divide the sphincter from within outwards. This operation requires extreme caution, as we are liable to wound more than we intended or more than is necessary, especially if the patient should chance to move his pelvis at the moment of the operation. In one instance which has come under the author's observation, where the sphincter was divided in this manner, the operation was followed by profuse arterial hemorrhage, which required pressure with the finger for several hours before it could be arrested.

In a second instance, the hemorrhage was so severe from a large artery as to retard the recovery of the patient for a considerable time; and there is not much doubt but that cases have occurred in which the pudic artery itself has been divided by this mode of operation. Another disadvantage also, is the liability of inflicting a wound upon the surgeon's finger by the subsequent effect of the simple puncture, of which, in operations about the rectum, more than one life has been lost. Another mode of performing the operation is by introducing the conical end of a tallow candle up the rectum, and then, with the sharp-pointed bistoury, dividing the sphincter from without inwards, the point of the bistoury being buried in the candle, when both are withdrawn, and thus preventing the liability of wounding the opposite wall of the rectum. The author thinks, however, it is always far preferable to see what one is about, than to perform an operation, as it were, in the dark; and it is on this ground especially that he recommends the speculum ani, which he is in the habit of using; in size and shape it resembles the ordinary speculum, being about three inches in length. It differs from it, however, in being of plated metal instead of glass, whilst a quarter of its circumference is made to slide in and out in a small groove. On first introducing the instrument, we should always endeavour to place the slide opposite the ulcer; and having effected this object, the slide should be withdrawn when the size and character of the ulcer can be clearly seen. The speculum is also furnished with a handle, which places it more under our command during its introduction, and enables an assistant to steady it in any position required whilst performing the operation. In addition to the great advantage of allowing the operator to see about, the speculum also enables

him to discover the source, and arrest any hemorrhage that may arise as the consequence of the operation. Thus, if important bleeding should come on after the sphincter has been divided, he should not attempt to withdraw the instrument immediately, but search for the bleeding vessel, and, if it proceed from an artery (for branches of the hemorrhoidal are occasionally divided), place a ligature upon it; but if it be a general oozing of sufficient importance to require its arrest, he should plug the speculum with lint; by so doing he may make pressure to any extent he pleases on that part alone where it is required. These remarks apply also to the operation for fistula in ano. Not many months since, the author divided the sphincter of a patient in the hospital for this disease, when a small artery bled very freely. By the aid of the speculum, however, he had no difficulty in seeing and securing it, thus placing the patient in a state of comparative safety after the operation, and relieving him and the author from that anxiety and apprehension which must always exist whilst hemorrhage continues. These circumstances all tend to show the advantage derived in dividing the sphincter, by the use of the speculum, over the other modes of operation which have been recommended; it enables us to see clearly what we are about, and places any hemorrhage that may occur under our immediate control, and may be compared to performing an operation in the light instead of the dark.\*

\* Medical Gazette, Jan., Feb., 1851.

### III.

## REPORT ON THE PROGRESS OF MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

### *Bibliography.*

THE productions of the press connected with the Obstetrical Science during the past six months are few, and but two have reached us; one a third edition of Dr. RAMSBOTHAM'S standard work on the "Principles and Practice of Obstetric Medicine and Surgery;"\* the other, a brochure on the "Management of Women at the Critical Periods of Life," by Dr. TILT.

1. Of the merits of Dr. Ramsbotham's well-known and highly appreciated volume, the strongest testimony is derived from the fact that upwards of four thousand copies have been circulated since its first appearance. It is therefore only required of us to point out the improvements and additions which give the present edition still greater claims to the attention of obstetrical practitioners.

Since the issue of the last edition, one of the most startling as well as important applications of the discovery of chloroform has been made in its use for the mitigation of the pains of natural and operative midwifery. A full notice of the subject has therefore been incumbent upon the author, and we accordingly find him devoting several pages to its consideration. He also introduces a few remarks on the application of galvanism in labour; on turning in head presentations; and on removal of the placenta before the child. We may add, that the volume is profusely enriched with plates, in Bagg's best style, illustrating the various stages and complications of labour.

In his chapter on *anæsthesia* in labour, Dr. Ramsbotham takes a rapid glance at the history of *anæsthesia* in general, and of its application to obstetric practice, by Professor Simpson. He then inquires into the evidence afforded, up to the present time, as to its efficiency and safety. He premises that the question is more complicated than in its relation to surgery or medicine. He proceeds to examine the various points to which our readers have on several occasions had their attention directed, viz., its effects upon the uterine contraction, the maternal circulation, and the viability of the fetus. The conclusions to which he has been led are seen in the following extracts:—

"Much misapprehension has arisen in the mind of the public, and especially the female portion of it, regarding the character of *anæsthetic* inhalation, and the direct effects which the vapour occasions, by the fervency with which its virtues have been proclaimed, and the erroneous qualities attributed to it.

"Those who have come forward as the chief advocates for *anæsthetics* under labour, have either entirely denied, or maintained an undisturbed silence, in respect to *their intoxicating* properties. The public has been led to believe, that their action was merely soporific and *anæsthetic*; they have been told that, 'in most cases, the mothers after delivery, on waking from their *anæsthetic* sleep, have expressed surprise at their own feelings of strength and perfect well-being;' that the patient 'stated her sensations to be those of awakening

\* The Principles and Practice of Obstetrical Medicine and Surgery in reference to the Process of Parturition, by Francis H. Ramsbotham, M. D. Third edition, enlarged. London, Churchill, 1851. 8vo. pp. 720.

from a comfortable sleep,' &c. . . . . Thus, the true condition into which the patients have been thrown, as well as the dangers they have incurred, have been carefully kept from view.

"No doubt it is a great bait to offer, and a great boon to promise to a woman, who is looking forward with anxiety to her approaching confinement—that she is to be lulled into a sweet, placid sleep; to be perfectly unconscious of all the distress and suffering attendant on labour—to be recalled to the world only by the grateful cries of her infant. But if the case were fairly and honestly put before them; if they were informed that they might probably be made *dead drunk*, but must certainly be reduced to that condition which the law designates *drunk and incapable*; how many, it may be asked, of our high-born dames—how many, possessing common feeling—how many, indeed, removed from the very lowest orders of society, would be found to avail themselves of the immunity from suffering which *anæsthesia* holds out, at such a sacrifice of moral obligations? I cannot help thinking, and I may add, also, hoping, for the honour of female nature, that those who have acceded to the proposal, have been betrayed into acquiescence by the belief that they were merely steeped in sleep, and not drowned in intoxication. And yet nothing seems more clear, than that they must be cast into the intense stupefaction of drunkenness, before they can be rendered oblivious to the mental anxieties and corporeal suffering incidental to their situation" (p. 180.)

From these remarks, our readers will be prepared to find Dr. Ramsbotham a strenuous opponent to *anæsthesia*. He would not, in fact, sanction it, even in operative midwifery. The only contingency under which he would hear of its application, is thus expressed:—

"Suppose, for instance, the *fœtus* lay transversely in utero, the membranes, perhaps, having been ruptured some hours, if the patient obstinately refused to submit to delivery, as I have known the case—if she were very boisterous and riotous, and would neither be persuaded nor controlled—I should deem it my duty, notwithstanding, to deliver her, not only for her own sake, but to preserve the child, if still alive; and, if that could be accomplished in no other way, I should not hesitate to employ etherization, and take advantage of the quiescence thus induced for the purpose of performing the operation; being thus driven to a choice of evils, and preferring even the dangers of chloroform to the chance of seeing the uterus ruptured, or the woman sink from exhaustion." (p. 182.)

As it is our object to give a transcript of the opinions of others, and not to obtrude our own sentiments, we forbear to make any comments on the above quotation; having, however, made it our business to lay the various writings on the subject before our readers, we leave them to form their own judgment, assisted, as by this time it probably is, in all instances, by personal experience.

2. Dr. TILT's volume\* contains an amplification of a series of papers which appeared in the "*Provincial Medical and Surgical Journal*," on the important subject of the medical and hygienic management of the female, at several epochs of her life.

Of the five chapters of which the work consists, the first is occupied with the management of the female prior to the first appearance of the catamenial functions. The second, with their management during the continuance of the function. The third is on the right management of women during the matrimonial life. The fourth and fifth, on the treatment of the disturbances and diseases incidental to the cessation of the menstrual discharges. In each chapter we find very considerable practical information, and evident traces of careful investigation into the natural history of menstruation; but, on the other hand, it cannot be denied that Dr. Tilt appeals somewhat too manifestly to public approbation, and thus disfigures an otherwise meritorious production.

\* On the Preservation of the Health of Women at the Critical Periods of Life, by E. J. Tilt, M. D., &c. London, Churchill, 1851.

### § I.—Diseases of Women unconnected with Pregnancy.

3. *Imperforate Vagina*.—In our last volume, page 158, we recorded a remarkable case of imperforate vagina, by M. DEBROU. Upon this case the author made certain comments, which we now supply.

In the consideration of such cases, two questions present themselves. 1. Is it proper to operate on girls arrived at puberty, with imperforate vagina and uterus? 2. In successful operations, can marriage be safely advised? The latter question is replied to first, by the following evidence:—

M. Amussat recorded, in the "*Gazette Médicale*" for 1835, pp. 785 and 817, a case in which he had operated for congenital absence of the vagina. He pronounced in favour of marriage; but there were no facts by which to prove the correctness of his opinion. Dr. Kluyskens also related a case in the "*Annales et Bulletin de la Société de Médecine de Gand*," July, 1845. The patient married; but did not become pregnant. Dr. Debrou hence considers that his case is the only one which throws light on the above question.

The ready manner in which conception took place, and the regularity of the pregnancy appear remarkable: 1. Because the long retention of the menstrual fluid, and the operations required to liberate it, might be supposed to unfit the uterus for the development of a fetus; and, 2. Because the tumour formed by the ovary or Fallopian tube on the right side might be imagined to interfere with fecundation.

In the accouchement, there were three circumstances worthy of note; the difficult dilatation of the uterine orifice, the convulsions, and the necessity for the forceps.

In ordinary cases, it may be easy to incise the uterus, but it is not so when the vagina is preternaturally narrow. In Dr. Debrou's case, the incisions were not fully sufficient for this reason. Upon the entire question he decides on the evidence of his own case, that she was rightly advised to marry; and that, had she not been weakened by diarrhœa, she might have escaped the convulsions, and not have required instrumental aid. In similar cases, he believes, a woman might be safely delivered.

In reference to the propriety of operating upon females with complete obliteration of the vagina, M. Debrou remarks on the impropriety of the term *absence* of the vagina, which is sometimes used. He prefers the term *imperforation*, to express the absence of an external aperture; *occlusion*, when there is only imperforate hymen; *obliteration*, where the situation of the vagina is occupied by fibrous tissue; and the term *absence* he limits to the condition in which there is no interval between the rectum and the bladder. These distinctions he considers useful in reference to operating.

The operation for forming an artificial opening in the uterus has been objected to by Sabatier-Dupuytren, Bégin, and Pigné, on the ground of its being likely to produce metritis. Yet the operation is not necessarily attended with danger; and Barré, Hervez de Chégoin, Wattmann, and Delpech, as well as Dr. Debrou, have performed it without any such bad effects. Dr. Debrou believes, that if the opinion attributed to Dupuytren be fairly examined, he will be found to refer to those cases, where it has been necessary to operate also on an obliterated vagina. It is this, almost entirely, which constitutes the severity of the operation.

Dr. Debrou next offers some remarks on the fact, that he was obliged to make an opening into the uterus a second time.

Excluding those cases in which the os uteri has become closed in pregnant females after conception, and in which it has been necessary to make an artificial opening to render delivery possible, he finds nine cases recorded which throw light on this subject. These he divides into two categories. In the first, including four cases, those of Barré, Hervez de Chégoin, Wattmann, and Delpech, the vagina was of ordinary conformation. In the second, the vagina was more or less obliterated, or even entirely absent. This category includes five cases: one by William de Metz; one by Desgranges; Amussat's case; one by Dr. De Bal; and one by Dr. Kluyskens; Dr. Debrou's case makes a sixth.



Two more questions have to be considered: How long should a foreign body be left in the wound? What means have been used for opening the uterus?

All who have operated, except Delpéch and Desgranges, have used a foreign body to prevent cicatrization of the orifice. M. Hervez de Chégoin first introduced a gum elastic sound, and, on the third day, a female catheter, which he kept in nearly two months. Dr. Barré introduced a large gum elastic sound, which he kept in only fifteen days, even taking it out several times, on account of the pain which it produced. M. Delpéch left the case to nature; the orifice is said to have remained open, and the menses to have flowed for two periods, after which he lost sight of the patient. Wattmann introduced a leaden canula: it is not stated how long it was retained, but his patient seems to have been cured. William de Metz introduced a plug of charpie; and says, that "in a month, the patient was cured;" hence, probably it was not kept in beyond that time. M. Amussat employed sounds for forty-four days, gradually increasing their size; and several times was obliged to suspend their use, on account of the pain occasioned, and because the patient was attacked with peritonitis. Desgranges merely introduced charpie between the *labia majora* and the vagina; but it appears probable, that his case was not one of congenital imperforation, but of incomplete obliteration of the vagina, and occlusion of the os uteri, resulting from syphilitic vegetations and from adhesions following chancres. Dr. De Bal used a gum elastic sound, but for how long he does not say; he merely mentions that the vagina was very small and undilatable. Dr. Kluykens introduced from time to time a gum elastic canula; the cure was complete at the end of five weeks. Dr. Debrou at first used charpie, then a No. 8 gum elastic sound for thirty-four days, occasionally suspending its use towards the termination.

The instrument employed to make an opening in the uterus has been generally a trocar, a pharyngotome, or some analogous instrument. Three surgeons only—M. Amussat, Dr. Kluykens, and Dr. Debrou—used a bistoury; but they also enlarged the aperture, so that, in Dr. Debrou's case, he could introduce the finger into the uterus.

It hence appears, that neither the method of making the opening, nor of maintaining it, had much effect on the result,—which was persistence of the orifice, in every case except that of M. Debrou. His failure, he says, must be explained in some other way. We must take into consideration the coexistence of occlusion of the uterus, and complete obliteration of the vagina; the difficulty of keeping open the orifice at the bottom of the newly-formed canal, which itself has a tendency to close, especially at its upper part; and the great importance of restoring the vagina to its natural dimensions,—even greater than keeping open the uterine orifice. Most of those who have operated have been content with making the vagina merely large enough to allow the escape of the menstrual fluid.

Sometimes the vagina is not obliterated at the upper part, and this will diminish the difficulty; for it is the upper part of the vagina which especially tends to contract, and to narrow the new uterine orifice.

Dr. Debrou believes that he arrived at a more complete result than the other operators, and sums up his remarks as follows: "In the first place, the efforts of the surgeon should be directed rather to the restoration of the vagina, than to the establishment of the uterine orifice; because the first object is the more difficult, and much more important. Even though my case has only the merit of showing the difficulties in the way of forming a vagina of sufficient dimensions, I believe that it will still be useful. In my opinion, this point is more important than the other; because, when life is assured by evacuating the uterus, if the orifice made cannot be easily maintained, on account of the contraction of the vaginal canal, it may be left alone until the vagina is restored. When this is once effected, a new incision in the uterus will not be attended by danger, and may easily be rendered permanent."\*

—Three cases of retained menses, from occlusion of the vagina, which have been successfully relieved by operation, are narrated by Dr. MASON WARREN.

\* American Journal of the Medical Sciences, July 1851.

In two of them, the occlusion was the result of sloughing of the vagina during parturition; the third was congenital.\*

4. *Menstruation; its Physiological and Pathological Relations.*—A series of papers on this subject, by Dr. HANNOVER, of Copenhagen, has been translated in the "Medical Gazette."† The author sets out with the assumed proof, that an ovum leaves the ovary at each period of heat, and is followed by the formation of a corpus luteum, and that no proof exists of their discharge at any other period. He then alludes to the ascertained fact, that corpora lutea have been found in the human female, and that matured ova have been found in women who have died at the completion of or during menstruation, where no sexual intercourse has occurred. Speaking of Bischoff's theory of the periodical discharge of ova, he mentions the difficulty arising out of an absence of the discovery of a series of corpora lutea, answering to previous menstrual periods. This was the objection to the theory urged by Meckel, who believed that the discharge of ova was not monthly, but took place at longer and indefinite periods. To this objection the author replies, that Meckel's observations are inconclusive; and this he proceeds to point out by a critical examination of them. The author, however, confesses our ignorance of the exact chronology of the corpus luteum, and thinks this ignorance a reason why Meckel's arguments cannot be sustained.

Another objection to Bischoff's theory is, that it is founded on a conceived analogy between menstruation in women and the rut of animals. This objection also the author shows to be without force.

With regard to the menstrual function, the author states that the uterus is not the real cause, as the menses have been known to flow after extirpation of the uterus, as in a case related by Moss. The determining point in the ovary, as with the removal of these organs, menstruation and the rut both cease. This the author illustrates by examples. In the progress of his essay, Dr. Hannover glances at menstruation during pregnancy; the term of his observations being to show that the existence of the sanguineous discharge does not bear so close a ratio to the power of conception as is commonly imagined. He also touches upon a very interesting question on the reciprocal relation of menstruation and disease. The influence of disease on this function is stated to be very similar to the effects of medicines upon it; that is to say, there are some diseases as medicines which seemed to have a certain effect upon the discharge, and others which had none. Among those which especially affect menstruation, he mentions fevers, especially typhus; long convalescence, chronic affections of the heart and sexual organs. Phthisis is also known to influence the functions, but it is not clear, as will be seen by the next article, that the fertility of pregnant women is diminished.

In conclusion, the author makes some practical remarks on the exhibition of medicines during menstruation. In his opinion there is no ground for the prejudice commonly entertained on this point. In reference to the treatment of amenorrhœa, he says: "So long as in certain cases he cannot decide whether the symptoms accompanying this state be owing to the absence of the discharge, or to a disturbance of periodicity, there can be no question of a rational cure, because the symptoms are far from pathognomonic, but are common to many other diseases. Where the symptoms indicate a deficient flow of blood, the chance of success is greater than where they are of a so-called nervous character, or where the cause is exclusively a disturbance of periodicity. Hence arises due want of plans when emmenagogue remedies are exhausted, and hence also the difficulty of predicting with any certainty that the function will be restored. It also often happens that the symptoms from which a patient has suffered for some time, are removed after the use of one medicine or another which has been applied just at the time when the return of the periodical function of the ovary was at hand, without our being entitled to ascribe the successful event to the medicine, since in many cases it has not been accompanied by the flow of blood. And in those cases where the symptoms vanish at the ap-

\* London Journal of Medicine, July 1851.

† Oct. 10, et seq.

pearance of the flow, we must make a distinction between such cases in which the discharge alone has been the restoring moment, and those in which the periodicity has returned, the flow of blood being only an inferior symptom of it. Professor Christensen mentions his having several times seen the menstruation return after one single application of lapis infernalis through the orifice of the uterus, after its having been absent for a long time, even for a year, and that this has had good effect on ulcerations of the mucous membrane of the sexual organs. But he adds, that the lapis infernalis, when too often used, produces a more frequent return, and a longer duration of menstruation, so that the patient is only free from it for about eight days, which is to be taken into serious consideration, because it both weakens the patient, and has a bad influence on the ulcerations. Here the secretion of blood was evidently a merely local discharge from the womb, without being at the same time a sign of the detachment of an ovum. It is with the cure of disorders of menstruation as with the application of anthelmintic medicines; if we were better acquainted with the natural history of intestinal worms, and especially the time and condition of their probable periodical departure from the intestinal canal, we should be able with certainty to follow up a rational cure, and with greater success to calculate upon their removal. We are, however, under our present imperfect knowledge, obliged either to take refuge in purely empirical means, applying now one, now another, or to be satisfied with the application of such means as only alleviate the apparent symptoms, without giving any positive proof that the disease is at the same time radically cured.

5. *Corpus Luteum; its relations to Pregnancy.*—Dr. RAMSBOTHAM has added to his latest edition a chapter on the corpus luteum, illustrated by two beautifully coloured plates. He discusses the question of the dependence of this body upon impregnation, in the following manner. It is perfectly true, he says, that spots of various sizes, shape, colour, and consistence are found in the virgin ovary of females; but this false corpus luteum has, he maintains, so little resemblance to that which follows impregnation, that, with care, the true can always be distinguished. The *real* corpus luteum in the first weeks after conception is round, or bean-shaped, often possessing a cavity either empty, or occupied by extravasated blood. It is vascular, and contains two coats, with a buff-coloured deposit between. One only is ever found at a time. At a more advanced period the cavity is destroyed, and its place is occupied by whitish striated lines. On the contrary, the *spurious* corpora lutea are of all shapes, and cannot be injected; they are destitute of the rich yellow deposit, and several may exist at the same time. Moreover, the perfectly regular central cavity is never seen.

—Dr. ALEXANDER HARVEY also maintains that a *true* corpus luteum is only formed after impregnation, though a false one follows each menstrual oviposit, and gives the following explanation of their different appearances. He observes that: "When a mature ovum is impregnated, provision is forthwith made to retain it in utero, and both ovum and uterus become the seat of active vital processes, which cause a prolonged determination of blood to the reproductive organs. The ruptured ovisac participates in this afflux, and the organizable deposit which it contains is placed under circumstances favourable to the exercise of its inherent powers of growth, and thus it becomes developed into a true corpus luteum.

"On the other hand, when the ovum is not impregnated, it is thrown off in the menstrual discharge, no prolonged afflux taking place as in the former case; the organizable deposit is not favourably placed for further development, and a *false* corpus luteum is the consequence."

6. *Ovarian Tumours, removal of.*—The most remarkable case which has ever been put on record of this nature is one by Dr. PEASLEE, in which both ovaries were successfully excised.

The subject of this operation was a young lady, æt. 25. Dr. Peaslee pro-

ceeded in the usual way to remove the tumour by first carefully dissecting through the abdominal parietes. On arriving at the fascia transversalis, it proved to be a very thin layer, and some doubts were entertained as to the dense white membrane which presented itself after its division. Careful dissection was therefore continued, and the membrane was found to be a sac. In the course of this last dissection, a vein was opened, and ten ounces of blood lost. Not above an ounce was lost in dividing the abdominal parietes. The vein in the wall of the sac was tied, and the operation continued.

At this conjuncture, fifteen minutes were consumed in guarding against the effects of violent vomiting which came on. After the retching had ceased, the hand was introduced, and the sac found to present no adhesions of any moment. The contents of the sac, amounting to twenty-two pounds of fluid, were now evacuated into a bucket. The pedicle was now reached, tied, and divided.

On making a careful examination of all the parts and organs brought into view, preparatory to closing the incision, a sac of the size of a pullet's egg was discovered on the right ovary, and the whole organ was diseased. Accordingly, a double ligature was passed through the broad ligament, and the ovary removed. The incision was now carefully closed, and the ligatures drawn out through the wound at the nearest point.

The woman made a good recovery. The catamenial discharge appeared seventy-two hours after both ovaries had been removed, and lasted for three days.

This case is accompanied by the following remarks by the author:—

1. The case is *unique*, as far as the successful removal of both ovaries at the same time by the large peritoneal section is concerned. It was also remarkable, from the very slight disturbance of the system. The pulse never rose above 120. Indeed, the patient recovered without a bad symptom.


2. The almost unfailling aid in the diagnosis of ovarian diseases which is afforded by the present advanced state of pathological science, is worthy of remark. It is impossible to form any rational conclusions as to the adhesions or non-adhesions of the sac, without previously evacuating it by tapping.

3. The temperature and hygrometric state of the air in the room at the time of the operation are very important matters. Certainly, the peritoneal surface is *more nearly* in its natural condition when exposed to a *warm and damp* atmosphere, than if the latter be cool or dry, or both. A still higher temperature than 80° would probably be better for the serous membrane; but it could not long be tolerated by the lungs either of the patient or the operator. It was observed that the surface longest exposed became somewhat livid from incipient congestion; and, had even a less protracted exposure to a dry or a cool atmosphere occurred, this effect would probably have been still more marked, and a decided congestion, which is but a single step from inflammation—from peritonitis—might have occurred. Moreover, a sudden change of temperature, even though a slight one, *after* the operation, and whether general or local, is replete with danger. Hence the temperature was kept at 78° to 80°, till all danger of inflammation had disappeared; and the warm water dressing was kept constantly upon the abdomen, as long as any dressing was needed.

That the alimentary canal be also empty and collapsed at the time of the operation, is an important consideration; since thus protrusions are avoided or easily reduced if they occur. Hence the propriety of a dose of oil thirty-six hours before the operation, and fluid nutriment afterwards.

4. Several difficulties not adverted to, in reports of this operation, occurred. 1st. The skin, being very tense, retracted about three inches when divided, and also drew the next layer (one and a quarter inch thick), as it was divided, down to an almost level surface; and thus rendered it impossible to keep the precise position of the middle line in the eye, through the whole length of the incision—nine inches. 2d. The fascia transversalis and parietal peritoneum were so atrophied by pressure as not to be recognized as distinct layers either during or after the operation, instead of being thickened as usual. 3d. Violent efforts to vomit, *i. e.* spasmodic action of the abdominal muscles, have been not unfrequent in other cases; and may not, therefore, in this, have been oc-

caused by the anæsthetic. 4th. The thickness of the abdominal walls (one and a quarter to one and a half inch) produced much difficulty in coaptating the edges of the incision. Large needles, two and three quarter inches long, were required; they must also be curved, and therefore annealed; and thus their points were spoiled. Still, the latter must be carried through the walls obliquely, so as to pass between the abdominal aponeurosis and the peritoneum, while, at the same time, the former was hardly thicker than stout letter paper, and the latter not certainly recognizable at all. Still, the risk of peritonitis was not partially enhanced by the delays thus produced: since they occurred either while the sac still protected the peritoneum, or while the wound was being closed.

5. The pedicles were divided thus, : the *oblique* lines representing the cut edge, the circle (o) the puncture made by the needle, and the dotted line the level of the ligatures—in order that the loops might *slip off* on applying traction at the proper time, and thus the ligatures be the sooner detached. It appears, however, that only one of them became detached in that way, the rest having been previously *united*. The one that *slipped*, also, was the last to come away; but the supposition has already been hazarded that it may have left the pedicle, and probably did, some days at least before it was detached. Whether, therefore, this idea as to dividing the pedicle will prove of any practical value, still remains to be decided. And whether the loop usually slips off, or cuts out, or becomes untied, after this operation, is a question previous reports do not enable us to decide, and which we now have under investigation.

6. The success of the operation is to be attributed to the fortitude and confidence of the patient; the comparatively slight adhesions of the diseased mass; the temperature, &c., of the room at the time and subsequently; accurate coaptation of the divided abdominal walls; and the judicious after-treatment. As much care and skill are necessary in closing the incision properly, as in performing the preceding operation.

As to the question whether the operation of ovariectomy is ever justifiable, it is the writer's opinion that, if the patient's general health is rapidly failing (but not already too far prostrated), and the tumour is found to be not extensively adherent, so far as all the known methods, taken *together*, can decide that question, the operation is justifiable; *provided* the patient, after fully understanding its nature, strongly desires to have it performed, and has strong hopes of recovery therefrom. But it is an operation never to be urged, nor to be undertaken by an operator whose care does not include the minutest particulars, both prior and subsequent to its performance, which can affect its results.\*

—A second successful operation of ovariectomy has been performed by Mr. BEALE, of Halesworth, Suffolk. In this case, the patient was a woman, aged 30, unmarried. The ovarian tumour was hard to the touch in the left iliac region and left hypochondrium, but soft and fluctuating on the opposite side, evidently in two distinct sacs, movable, and not tender. It was removed on December 4, 1850, about a year after it was first perceived. The incision was ten inches in length, extending from the scrobiculus to the pubes. Two cysts were punctured, and their contents removed, before the tumour could be extracted; the pedicle was tied by a double ligature passed through its base, and the tumour was then separated as near as possible to it. The uterus and right ovary were healthy. Everything went on favourably; on the 15th December she was able to walk about the room; and on the 25th, the ligature came away. The tumour was 3 ft. 2 in. in its largest circumference, and 2 ft. 1½ in. in its smallest; it weighed 25 pounds; it was multilocular, marked on the surface by bands of white fibrous tissue corresponding with the septa of the cysts. The cysts varied very much in size, and in the density and tenacity of their contents; in the smaller ones, the fluid was clearer and thinner. The average specific gravity was 1010, but the fluid contained a very large quantity of albumen. The total amount of fluid was from 21 to 23 pints.†

\* American Journal of the Medical Sciences, April 1851.

† Provincial Journal, &c.

7. *Uterus: Abnormal States of, depending upon Syphilis.*—In the volume by Mr. WHITEHEAD\* already alluded to, it was stated that, among other points strongly insisted upon by him, was the frequent manifestation of constitutional syphilis, in a morbid condition of the uterus. We proceed now to lay before our readers the views of the author more in detail.

It is now admitted by many pathologists that a man may transmit the syphilitic poison by sexual contact, long after all sensible traces of the disease have subsided; in other words, that he may transmit constitutional or secondary syphilis, as it is called. This happens, in the author's opinion, through the agency of a contaminated seminal secretion.

The symptom in the female which, according to Mr. Whitehead, is almost invariably present, is a purulent vaginal discharge, of a greenish tint. The energies, both mental and physical, are said to be below the healthy standard, and the countenance is of a leaden or ashy-pale colour, most pronounced in the lower eyelid. The uterine appearances are described as peculiar, and are, by the author, reduced to the following forms: 1st. Hypertrophy, implicating the lower section, or extending upwards to the body, or even involving the whole organ. 2d. Induration, existing partially, or as far as can be ascertained, by touch. 3d. An erythematous surface of a dark-red, glistening aspect, with many white elevations. 4th. Patchy excoriations. 5th. Aphthous ulceration. 6th. Endo-metritis, with ulceration creeping externally either on one or both labia of the os uteri. 7th. Warty excrescence. On each of these characters the author proceeds to remark:—

Concerning the first and second, he says, that they are by no means peculiar to syphilitic affections, but accompany simple inflammatory engorgement; in his own experience, however, the great proportion of such cases were of syphilitic origin.

Of the dark-red, erythematous condition of the uterine neck, he says, that it may be confidently pronounced to be syphilitic, and that the patient will be liable to transmit the taint to her offspring.

When, in addition to enlargement and redness, the lower segment of the uterus presents excoriation, Mr. Whitehead believes that the case is syphilitic, or gonorrhoeal; which he, contrary to the best-acknowledged opinions, believes to be capable of being transmitted.

One appearance of the os uteri resembling thrush is, as far as the author's observation extends, peculiar to the syphilitic diathesis. A woman so disordered is capable of infecting her offspring.

\* The sixth condition mentioned occurs under two varieties. The orifice of the uterus is encircled by a deep red inflammatory blush, which terminates abruptly on the labia, and extends up the cervix: the remainder of the os is pale; but the vaginal membrane, when immediately reflected upon it, is of an erythematous redness. From the cervix, exudes a purulent sanies. This condition, the author says, usually supervenes upon gonorrhoea.

The other form of disease is ulceration. When this is covered with a glutinous ash-coloured secretion, primary syphilis is to be suspected; more frequently, the ulcerated surface is simple; if, however, the outline be raised and wavy, and the cervix be variegated in redness, or aphthous, the author considers the woman to be labouring under constitutional syphilis.

Warts are considered as unmistakable evidence of syphilitic taint.—(pp. 249-258.)

8. *Retroversion of the Unimpregnated Uterus—New Treatment for.*—M. AMUSSAT has recently spoken of a mode of treatment which he has followed with great success. This consists, after reduction of the womb, in causing adhesion of the cervix to the posterior wall of the vagina, by means of caustic. He narrates three cases, in which the symptoms depending upon the displacement were undoubtedly relieved; but it is questionable whether, in the case of subsequent pregnancy, the remedy would not prove as bad as the disease.†

\* Op. cit.

† *Révue Médico-Chirurgicale*, Oct. 1851.

9. *Ossification of the Uterus*.—Occasional instances have been reported of partial conversion of the uterine structures into bone; but we are not aware of any case in which the transformation was so extensive as in the present.

A female died of ascites, at the age of 76. On examination after death, the following remarkable appearances presented themselves: In the place of the uterus, between the rectum and bladder, there existed a bony substance, the size of a pear, covered by the peritoneum, and terminating in a cartilaginous substance, in the situation of the os and cervix. To either side of the osteoid were attached the broad ligaments and Fallopian tubes. When the substance was divided into halves, a cavity similar to that of the uterus was discovered.\*

10. *Uterine Calculus*.—Professor ANDREA records a case of uterine concretion, probably an ossified fibrous tumour, which he removed by incision of the cervix. The calculus was two and a half inches in length, and four inches in its largest circumference. It weighed over four ounces. Its shape was pyriform; and, from its appearances, it was supposed to consist of urates and earthy phosphates.†

## § II.—Pregnancy—Labour—The Puerperal State.

11. *Pregnancy, Influence of, on the Progress of Phthisis*.—Observations on the mutual relations of pregnancy and tubercular disease have been noticed in our former volumes. Dr. WALSH (‘‘Abstract,’’ Vol. XII., p. 180) has investigated the fecundity of phthisical subjects; and M. GRISOLLE (‘‘Abstract,’’ Vol. XI., p. 33) has written on the influence of pregnancy on the progress of phthisis; concluding, as the result of his inquiries, that the suspending effect of conception on the pulmonary disease, as has hitherto been generally believed, has no foundation in fact. Further observations, however, were necessary to determine the point, and these have, to a certain extent, been supplied by M. Dubreuil.‡

In the cases collected by M. Dubreuil, which amount to thirteen, phthisis appeared, or at least was recognized, during the first three months of gestation. Of this number, four women appeared to be in the enjoyment of excellent health at the time of conception, whilst the others had already presented for a greater or less time some symptoms more or less suspicious. Contrary to what would be expected in conformity with the ideas generally prevalent, in all these cases, the symptoms, instead of improving, were seen to declare themselves more unequivocally, and the disease made progress. In none of the cases of M. Dubreuil, as in none of the cases formerly collected by M. Grisolle, was the suspending action of the pregnancy observable. On the contrary, it seems to play the part either of a determining cause or of an aggravating circumstance.

According to the reporter (M. Grisolle), the cases where the first phenomena of phthisis develop themselves at the beginning of pregnancy, and during a state of health heretofore good, are more common than those where the pregnancy is consecutive to the first symptoms of the organic disease. He has observed that women decidedly phthisical, contrary to what has been said, seldom become pregnant. M. Dubreuil has also observed this circumstance, and, according to M. Delafond, the same is true of the lower animals. The author has, moreover, remarked, that phthisis coexisting with pregnancy does not undergo in the leading symptoms any remarkable modification. This had also been pointed out by M. Grisolle, who had even noticed, in his former researches, that the state of pregnancy did not modify nor render more frequent certain phenomena of the disease, such as dyspnoea and hæmoptysis, as might have been expected.

M. Dubreuil has expressed an opinion relative to the progress of phthisis during pregnancy, in which the reporter does not agree with him,—viz., that, during the later weeks of gestation, there is a sort of interruption of the morbid action. M. Grisolle maintains that, if this does occur in some cases, they are

\* *Medizinisches Correspondenz Blatt de Württemberg*; and *Gazette Médicale*, Nov. 7. 1851.

† *Il Raccogliatore Medico*, in *Dublin Quarterly Journal*, Nov. 1851.

‡ *Gazette Médicale*, Oct. 11, 1851; and *Monthly Journal*.

only exceptional. It is rare, according to him, that phthisis, complicated with pregnancy, presents in its progress those intermissions or temporary suspensions which are so common in ordinary tubercular disease. He has invariably seen it make an ascending progress, and become complicated with all the accidents which can occur in the course of phthisis.

The author has also investigated the effects of delivery and of the puerperal state on the progress of phthisis, and he seems to be led to believe that these conditions hasten, oftener than M. Grisolle has stated, the progress of the disease, whatever in other respects be the period of the malady. He thinks that these new conditions can develop phthisis completely, provided the predisposition exists,—or accelerate the fatal termination, when the malady has already declared itself. According to M. Grisolle, that occurs sometimes, but not so often as M. Dubreuil supposes. M. Grisolle adheres to the opinion, that delivery is rather to be wished for than feared; for if some women, already quite exhausted, sink soon after, it is very rare that this happens if the pulmonary disease has not passed the first or second stage. It is, then, more common to see the symptoms improve; there may even be such a suspension of the disease as to lead to the belief that there has been a cure.

M. Dubreuil, wishing to clear up all parts of the question, has investigated the influence which phthisis exerts upon pregnancy, and he agrees with M. Grisolle in remarking, that most phthisical women go to the full term; that the most of them have easy labours, with little pain; and that attempts at nursing always produced deplorable results both to mother and child.

After this analysis of the details, the reporter thus sums up the value of M. Dubreuil's whole memoir:—

The questions which M. Grisolle has propounded are important and practically interesting in the highest degree. He has once more shown that marriage—that popular remedy for all the ills of young women, and for debilitated constitutions—ought always to awake the anxiety of the physician. Observations now abound to show, that pregnancy, far from being a fortunate circumstance, is, for women who have either an innate or acquired predisposition, often the determining cause of tubercular disease of the lungs. The coexistence of pregnancy with phthisis, instead of being a fortunate occurrence, as is supposed, increases and hastens the danger. We, therefore, are not entitled, with an author of the last century, to say, that of two women, equally consumptive, she who becomes pregnant will surely live to the end of the period of gestation, whilst the other will die before that time. To be near the truth, the proposition should be reversed. M. Dubreuil, therefore, deserves credit for having helped to destroy an erroneous and dangerous opinion.

**12. Duration of Pregnancy.**—At a recent meeting of the London Medical Society, a paper on this subject was read by Dr. MURPHY. In this paper, two main questions were offered for consideration: viz. Is the duration of pregnancy a fixed or a variable period? and, if it be decided that it is variable, What are the limits of its variation? The usual mode of calculating the term of pregnancy is by dating from the last period of the menses to the time of delivery, the gross results being corrected by deducting as many days as is supposed necessary to avoid error. Some, believing that conception may take place at any time, deduct one-half the menstrual interval; while those who consider that conception can only take place at a menstrual period, date either from the last catamenia, or from that which should have happened, but for conception. This estimate being compared with the period of quickening, a result is obtained, sufficiently accurate for ordinary practical purposes, but not precise enough for legal evidence. Other indications have, therefore, been sought for. Peculiar sensations are experienced by some women at the time of conception: some cases of this kind, described by Dr. Montgomery, would tend to fix the duration of the pregnancy at two hundred and eighty days. In other cases, it has been ascertained by the date of a solitary intercourse, which, of course, fixes the date of conception; the same period of two hundred and eighty days is, from such cases, given by Sir C. Clarke and others; and from these facts many are in-



clined to regard that period as the correct duration of pregnancy. To this opinion, however, Dr. Murphy does not subscribe, as these cases are comparatively few in number, and, if the rule were different, might easily, he thinks, form an exception to it without invalidating it. He therefore calls in the aid of statistics for the solution of the problem; this he commenced some years since, at the University College Hospital, when forming a register of obstetric cases. The following method was adopted: When a letter for attendance was applied for, an inquiry was made as to the catamenia, the age of the applicant at its commencement, its period, and its last appearance. With regard to the last question, some could only give the month, others were precise as to the date, and some were too irregular to date from. The last were excluded from the inquiry; as, for instance, some who were nursing either had no change, or a very irregular one; others had been always irregular before pregnancy, and therefore could not be depended on; and again, with others, the catamenia had evidently continued after conception: all these were excluded as the others were noted, and when delivery occurred, that also was noted, the interval between the two giving the gross duration of pregnancy, which was afterwards corrected, so as to make as near an approach to accuracy as possible. Of these cases, some time back, a table of 186 was formed. The corrections were made as follows: If the period exceeded 280 days, and the woman had given the exact date when she was last unwell, the whole menstrual interval was deducted; so, if the whole period were 328 days, and 28 days were the menstrual interval, 300 days would be regarded as the true duration. It was considered that the woman might be in error, and it was thought safer to suppose that conception occurred just before the catamenia which had been arrested. Subsequently, 280 days were regarded as the true period, and in any cases that exceed, the menstrual period is deducted, the result being presumed to be accurate. From his records of 965 cases, Dr. Murphy has formed four tables: 1st, those in which the duration of pregnancy exceeded 280 days, including 303 cases; 2d, those that are exactly that period, including 378 cases; 3d, those between 260 and 280 days, including 201 cases; and 4th, those below 260, including 83 cases. The 4th, or last table, he (Dr. Murphy) looks upon as instances of premature labour. From these tables, he gathers that the duration of pregnancy is not a fixed, but a variable period, as in the lower animals; varying, however, only within certain limits. Those limits are not yet ascertained. He regards 260 days, or 37 weeks, as the shortest period; he has attended mature infants born at that date. The longest period is yet *sub judice*, the cases in the first table being yet under examination, and requiring correction.\*

13. *Anomalous Pregnancy.*—A case is reported by Mr. THOMAS CHURCHILL, in which gestation had proceeded to the full period, without the production of a fœtus. The patient, who was the mother of five children, became pregnant in the beginning of June. In September, she was attacked with slight hemorrhage, which she attributed to a fright. During December, and January 1831, she had a repetition of the flooding, and a still more severe one on the 6th of February, upon which the author was summoned. On examination, the os was found undilated, and by proper treatment the bleeding was checked until the 7th, when it returned, accompanied by labour-pains. The os was now dilated, and placental presentation was ascertained. The membranes were ruptured, and eventually the contents of the uterus were expelled; but, to the author's astonishment, there was no fœtus, nor even cord, attached to the placenta. On careful examination of the latter, it appeared to be of full size, and perfectly formed. The foetal surface was level, and, in place of a funis, the vessels terminated in a round knob. The woman recovered.†

14. *Extra-Uterine Pregnancy.*—The following cases of extra-uterine foetation have been recorded since the date of our last Report.

—A remarkable case, by M. KIWISCH,‡ in which a mature foetus was formed

\* Reported in London Journal of Medicine, Nov. 1851. † Medical Times, May 17.

‡ Verhandlungen der Phys. Med. Gesellschaft in Würzburg, and Medical Gazette.

in a female who had been the subject of ovarian conception twelve years previously. The woman, who died of Bright's disease, had borne twins, and subsequently became again pregnant. About the seventh month she suffered from severe uterine hemorrhage; but, as neither then nor afterwards did labour occur, it was supposed, notwithstanding that foetal movements were felt, that the diagnosis of pregnancy had been erroneous, and the patient was henceforth treated as the subject of an abdominal tumour. It is very remarkable that neither during the development nor after the death of the ovum, were any symptoms of disordered health known to have occurred. At the period of the greatest development of the foetus, the circumference of the abdomen was always less than is usual, and, in the last year of her life, it very much decreased. On examining the body, a tumour was found partly covered by the intestines, but not adherent to them, lying somewhat to the right side; and, being connected with the uterus by the broad ligament, it had the appearance of an enlarged ovary lying freely on the brim of the pelvis. The tumour, when removed entire from the pelvis, presented the following characters:—

Its size was about that of the head of a child of two years of age; it was perfectly round, and was covered with a white, shining membrane, which might have been mistaken for peritoneum, and was on the one side continuous with the broad ligament. On its upper surface was the hypertrophied and flattened Fallopian tube. The fimbriated extremity of the tube was so intimately united to the outer covering of the tumour that it could not be traced, and therefore its abdominal aperture could not be discovered: neither could any communication be traced between the tube and the cavity of the tumour. The upper part of the coats of the tumour were very thin, and, at this part, presented a small bunch of what proved to be finger-bones, protruding through the membrane. The tumour was covered by a smooth, firm, continuous tissue, of the consistence and hardness of a fibrous membrane. In like manner, diverticula of the peritoneum were found, which contained the feet. On the under surface of the tumour was a substance, about two inches in length and about three lines in thickness, which was evidently the altered remains of the ovarium. This body was examined by Drs. Kiwisch and Kölliker; it presented, however, no trace of structure by which its true nature could be determined.

On opening the tumour, the inner surface of the membrane was found firmly adherent, and incorporated with the parts, with which it was in contact, of a compressed foetus,—*e.g.* with the right parietal and temporal bones, and with the bones of the foot and hand, which lay most externally. On the surface, at other parts, the membrane was raised, as if in blisters, by a fatty, unctuous substance, which intervened between the foetus and the tunics of the cyst. Those portions of the foetal bones which were further removed from the external coats of the tumour, were covered by their own integuments and soft parts; this was seen to be the case with the other portions of the scalp, neck, and upper and lower extremities; but it was impossible to ascertain the condition of its surface, generally, without entirely destroying the preparation, so completely was it folded and compressed upon itself in every direction; and so disfigured was it by this compression, that it was difficult to recognize anything like features. The integuments of the scalp presented fully-formed hair, and the size of the several bones of the skull and of the extremities left no doubt that they belonged to a mature foetus. On the inner surface of the sac were also to be perceived the remains of a placenta, about the size of a small plate, having on its internal aspect some traces of amnion and umbilical cord.

The uterus was distinctly hypertrophied, particularly in the direction of its length, which was augmented at least to the amount of one-third. The other tube was united by adhesions to the ovary and uterus.

—A similar case, of twenty years' duration, has been reported by Dr. CHRISTIAN, in the "Philadelphia Medical Examiner."

—A case of tubal pregnancy, ending in the usual manner by rupture, occurred under the care of Mr. MORLEY, of Barton on Humber. The patient was a servant, and unmarried, who was suddenly seized with acute pain in the abdomen, faintness, and vomiting. She died in rather more than twenty-four hours with

all the symptoms of extravasation into the peritoneal cavity. On examination after death, Mr. Morley found the viscera of the abdomen concealed by a large coagulum of several pounds' weight, together with some pints of fluid blood in the peritoneal cavity; having removed these, the first object which struck his attention was a male fœtus (between the 5th and 6th month of gestation), with its head just below the margin of the liver: on tracing the funis, he found that it terminated in the placenta, still partly attached to the interior of the parietes of the left Fallopian tube, which was rent throughout nearly the whole of its extent. The uterus was little if at all enlarged; its cavity lined by the decidua, and the os plugged with mucus.\*

15. *Retroversion of the Uterus during Pregnancy.*—We find the following case in the "*Révue Médico-Chirurgicale*."†

A woman, married nine years, was suddenly seized with violent colicky pains in the abdomen in the third month of pregnancy, attended with constipation and difficulty in passing her urine. When visited by M. TESSIER, she complained of intense pain, with a feeling of weight in the pelvis, dragging in the groins, and frequent bearing down. On examination per vaginam, M. TESSIER felt a tumour at the entrance of the vulva, which filled the vagina, and prevented the passage of the finger behind the pubes without great difficulty. In consequence of a knowledge that her former labours required instrumental aid, he became impressed with the idea, that this tumour was the cause of the obstruction; and considering that the present symptoms indicated a premature confinement, thought it prudent to leave that event to take place. The patient, however, got worse, and M. Garin was called in, who, after some difficulty and perplexity as to diagnosis, recognized a complete retroversion of the uterus, and proceeded at once to replace it, which he accomplished in the usual manner.

16. *Ergot.*—Dr. GEORGE ELY has published some sensible remarks condemnatory of the rash way in which the ergot is often given; and pointing out the circumstances under which it may be legitimately exhibited. To render its use even safe, he observes that there must be no disproportion between the maternal pelvis and fœtal head. It should not be given before the os uteri is well dilated, and cannot, therefore, be suitable to the early stages of labour; neither is it to be given, unless the soft parts are soft and dilatable, and is, for that reason, inapplicable in primiparous births. The circumstances in which it is really valuable are stated to be those under which a few strong expulsive efforts will suffice to complete the delivery.

Dr. Ely confirms the observations of Dr. Hardy, that the ergot will sometimes produce very serious depression of the pulse, when the patient has been previously exhausted, as by hemorrhage or diarrhoea.

As a case in which the ergot is strikingly beneficial, Dr. Ely mentions partial presentation of the placenta. Here, until the os uteri is considerably dilated, the bleeding can only be stayed by the plug; but when the os is open, thin, and yielding, if we rupture the membranes, the descent of the head will so compress the bleeding vessels, as to place the patient in safety. In such a case the author strongly advises the use of a full dose of ergot after rupture of the membranes.‡

17. *Extraction of the Placenta before the Child.*—Dr. RAMSBOTHAM is not an advocate for the practice recommended by Drs. Simpson and Radford, the advantages of which, under appropriate circumstances, have been attested by so many independent observers. (Vide op. cit., p. 403.)

18. *Bandaging after Delivery.*—It will be seen, by a reference to our extracts (Art. 80), that Mr. KERREVEN calls in question the utility of the practice of bandaging the abdomen after delivery. The paper in question has called forth

\* Prov. Med. and Surg. Journal, June 25, 1851.

† Sept. 1851:

‡ London Journal of Medicine, Nov. 1851.

several replies, in all of which the utility of the bandage is advocated as a method contributing to the safety of the patient, which ought not to be rejected. Dr. Ramsbotham (op. cit.) does not appear to place much value on it, but regards it more as a means of preserving the figure, than of averting immediate accidents.

19. *The Vectis*.—The relative value of the vectis and the forceps has given rise to much discussion; the chief points of which are succinctly noticed by Dr. RAMSBOTHAM (op. cit., p. 274). The chief arguments in favour of the vectis, as stated by him, are,—*first*, that there is but one blade, which is more easily applied; *secondly*, that extraction can be more easily effected with it; *thirdly*, that, being so easily applied, it is not necessary for the operator to ascertain so intimately the nice obstetrical points connected with the case, or to make himself so minutely acquainted with the position of the head, as when the forceps is used; *fourthly*, that it can be used in cases where the short forceps is perfectly inadmissible, before the head has descended sufficiently low to feel the ear; because we do not guide this instrument over the ear, but introduce it where we can most easily apply it, and can obtain the most useful purchase. On these points he thus enlarges:—

“Each of these arguments deserves a distinct consideration. In the first place, I would readily grant, that the single-bladed vectis can be more easily applied than the double-bladed forceps; but I cannot concede to the proposition, that delivery can be more easily effected with it—at least it is not so in my hands. I am not arrogating too much to myself, when I say that I have had considerable experience in instrumental cases; I can conscientiously affirm, that I entered on practice quite unprejudiced as to the relative merits of the two instruments; and I have found it, in no few instances, easy to finish the labour by means of the forceps, when I had made trial of the vectis without effect. If such has been the case, as I have reason to believe it has, with others as well as myself, of what use is it to boast the easy adaptation of a power which, when properly adjusted, is so inadequate to the end proposed? Again, we are told that, being so much more easily applied than the forceps, it is not necessary that the operator should be so perfectly conversant with obstetrical principles in general, or the particular points of the case under treatment. This, although a very specious, is, in my opinion, the most injudicious and untenable argument which could possibly be addressed in favour of this mode of delivery. To prefer the vectis because it may be worked by a person who knows but little of obstetric principles, is, to say the least of it, placing a dangerous instrument in rash hands, framing an excuse for ignorance, and opening a wide door for violence and injury. I cannot but think that man highly culpable who would attempt to introduce the vectis without knowing minutely the bearings of the case under his care, or who was not sufficiently acquainted with the principles of obstetric science to enable him properly to use the forceps. Such a man would compromise his patient's safety, to say nothing of his own character. The fourth, and last, is the only argument which, with me, carries any weight in support of the vectis. That it can be used in cases where the short forceps is inadmissible, owing to the principal bulk of the head remaining above the pelvic brim; it is a longer instrument, and in its application passes higher within the woman's person than the short forceps, being received somewhat, indeed, into the cavity of the uterus itself; but to overcome the difficulty of such a case, we are in possession of a much more efficient, and, in my opinion, even more safe instrument, in the long forceps. So that, either with the long or short forceps, we may surmount all the impediments to which the vectis is applicable, under vertex presentation.

“*Positive Advantages of the Forceps*.—Besides these negative advantages, the forceps appears to me positively superior to the vectis in many respects. *First*, when we have applied fully over the ears, we can generally turn the head into that direction most convenient for its exit. It has been already shown that, if the face be coming forward towards one or the other groin, we may, perhaps, find it necessary to turn it into the hollow of the sacrum before we can accomplish extraction, and that this turn can be accomplished

without any great difficulty; but we cannot do this with the vectis—we can only extract the head in that situation under which it is attempting the passage. *Secondly*, we can compress the head with the forceps, and diminish its lateral diameter so as to enable it to escape through a somewhat contracted aperture. It may be answered that this may be effected with the vectis also, but when the head is compressed between the two blades of the forceps, the pressure is taken off from the mother's structures; should the vectis, however, be employed, the counter-pressure is made by the bony pelvis itself, and the soft parts lying between the head and the pelvic bones must suffer more or less from contusion. *Thirdly*, we are not so much in danger of injuring the mother, because, with the forceps, we have a fixed fulcrum, and, consequently, there is no necessity for us to form one for ourselves. To this observation, again, it may be answered that the vectis should be used as an extractor, and not as a common lever; and that, therefore, our argument is unfair, as being deduced from an abuse of means. In reply, I would observe that the instrument is so much more easily used as a lever of the first than of the third species, and the fulcrum is so much more naturally made by the bony pelvis than our own hand, that, in our anxiety to accomplish one object—however we may be determined to the contrary—we run a great risk of transgressing the rule, and endeavouring to *scoop* the head out. It will, of course, be understood that these remarks apply to young operators, and not to experienced practitioners.

“These three principal advantages, then, which the forceps possesses over the vectis—the being able to turn the head in any direction—its producing compression and diminution of bulk, without bruising the soft parts, and the comparative safety with which it may be employed—induce me to use it and strongly recommend it in preference to the vectis. There are only three cases to which I think the latter instrument more suitable than the forceps; under presentations of the brow, face, or side of the head—the ear, for example. In brow-presentations, the vectis may sometimes be advantageously used—being passed over the occiput—to bring down the vertex, and prevent the case being converted into a face-presentation; but this is seldom requisite, and can only be effected before impaction has occurred; again, where the face presents, and the head has become impacted in the pelvis, the case is more likely to be easily terminated by the adaptation of the vectis than by the forceps; and the same remark holds good in regard to the presentations of the side of the head or ear.”\*

20. *Puerperal Fever*.—The Obstetrical Society of Edinburgh, among the many topics of interest by which its meetings are distinguished, has recently been the arena of a very instructive debate on the above disease, originating in the reading of a paper by Dr. ARNETH,† on the obstetric practice of the Vienna Hospital. The substance of this paper is as follows:—

The fearful extent of the mortality from puerperal fever in the Lying-in Hospital, as compared with private practice, was the cause of an inquiry by a medical commission appointed for the purpose. The first thing that struck their attention was the far greater mortality in the wards frequented by the students than in those attended by females studying as midwives; but this was only since 1839, before which time the pupils and midwives attended the same wards; this is shown by tables.

In 1847, Dr. Semelweis, being appointed assistant-physician, lent his best energies to the discovery of the cause of this mortality, and it soon occurred to him that the difference in the mortality of the wards attended by the male and female pupils respectively, was to be attributed to the fact that the former were in the daily practice of assisting in autopsies, and frequently went immediately after into the obstetrical wards, where they made examinations of the pregnant and parturient women. The result of the idea thus seized upon was the insisting on the pupils invariably washing their hands in a solution of chloride of lime prior to any occupations in the wards, a precaution which was

\* Principles and Practice of Obstetric Medicine and Surgery, by Francis H. Ramebotham, M. D.

† Monthly Journal of Medical Science, June 1851.

immediately followed by the best effects. From this time the mortality diminished sensibly, and became nearly equal in the male and female clinics.

Upon these facts, Dr. Arneth remarks that there can be no doubt that the exciting cause of puerperal fever is the entrance of matters in a state of putrefaction into the system, causing phlebitis and purulent infection. The rigors that prevail as the first symptoms, the dirty yellow discoloration of the skin, the metastatic deposits, are the symptoms of purulent infection; and these are also the signs of the most hopeless cases of puerperal fever. "If (he observes) the disease originated in the vaginal and uterine discharges, there could be no reason why the mortality should have been so much higher in some wards than in others."

Dr. Arneth states that he knows of no instance in which puerperal fever has been conveyed by the clothes of the attendant; and he also informs us that he has never observed the association of puerperal fever with erysipelas, which has been noticed in this country.

After the reading of the paper, of which the above is a brief abstract, several members spoke as to their views on the contagious nature of puerperal fever.

Dr. Moir gave short notes of several epidemics of puerperal fever, after which he narrated the particulars of three cases which had recently occurred in his own practice. He delivered a patient, A, on the 8th of February, at midnight; another, B, on the morning of the 9th; and a third, C, on the afternoon of the 10th. On the evening of the same day he opened the body of the infant of A, which had died, and found the cavity of the right pleura filled with sero-purulent fluid. The nurse, who, we presume, was also present at the post-mortem, was ordered to change her clothes before she approached the mother, and to wash with chloride of lime. Dr. Moir did the same. On the 14th, the nurse was feverish, and had inflammation of the lymphatics, having pricked her finger previous to the post-mortem. Dr. Moir afterwards visited A and B, and next day he saw C. On the evening of the 12th, A had rigors, the pulse was very rapid on the 13th and 14th, but fell to 80 on the 15th; she became worse, and died on the 24th. B was seized, early on the 13th, with rigor and violent pain of abdomen, which continued for nearly a fortnight, during which time effusion took place into one pleura, and soon after it into the other; but, though exceedingly prostrated and worn out, she is still (about a month from the attack) alive, and, it is hoped, may recover. C was also seized with rigor early on the 13th; pain confined to the uterus, which was hard and painful on pressure; was leeches over it, and so far relieved that, on the 15th, her pulse was in the morning down to 90, and soon after mid-day to 72; yet the symptoms became aggravated, and she died on the 19th.

Dr. Moir called the attention of the members to the great difference of the local symptoms in all the three cases; the pain in C being chiefly confined to the uterus; in B to the peritoneum generally, the whole abdomen being exquisitely tender to the touch; while in A there was neither pain of the abdomen nor of its contents during life, nor morbid appearances after death, with the slight exception already mentioned. And he lastly requested their particular attention to the probable exciting cause in the three cases, or to the manner in which the disease had been communicated; because, believing, as he did, in its contagious nature, it appeared to him a question of great importance to trace out the cause. At first sight, it might appear that the most probable cause was the communication of some morbid matter from the opening of the foetus, it being admitted that the application of the inflammatory products effused on mucous or serous surfaces may communicate the disease, as amply proved by Dr. Arneth's paper, as already read; but, on more particular attention to the subject, there were several great difficulties in admitting this as the cause in these cases, as all the patients had been delivered *prior* to the opening of the body; as the hands were well cleaned with chloride of lime, and the clothes changed, before *two* of the patients were visited that night, and as the *third* was not seen till next day, and as in none was any vaginal examination made by Dr. Moir *subsequent* to the sectio. Dr. Moir then submitted what to him appeared, on a careful review of all the cases, as the cause. He believed that

there must have been some peculiar condition of A's system, which had been not only the cause of the disease discovered in her infant, but also of the subsequent symptoms in her own case, and which had communicated to Dr. Moir some virus or *materies morbi*, which had been the means of inducing the disease in the other two patients. In support of this, there was: 1st, the state of the infant, which was well grown, and in every way healthy, with the exception of the sero-purulent effusion into the right pleura; and that this was dependent on some morbid condition of the mother, was borne out by there being, 2d, for some days previous to labour coming on, a feeling of occasional faintness and of listlessness, very foreign to her usual habits; 3d, by the difference in the nature of the labour, which on former occasions was generally very rapid, and without premonitory symptoms—whereas, on the present occasion, besides supervening a fortnight before her full period, there was a threatening of labour for four days, during the whole of which time Dr. Moir was frequently in attendance on his patient, often for a considerable period at a time; 4th, by the scanty or almost total want of secretion of milk, whereas on all previous occasions it was very abundant; 5th, by the slight rigors, which in attacks of puerperal fever are generally more severe; 6th, by the total want of the usual local pain in the regions of the uterus, its appendages, or the peritoneum; and 7th, the appearances after death. From the preceding facts, Dr. Moir inferred that the disease in this case, A, was the result more of some primary morbid state of the system than connected with any local cause, such as the application of morbid matter to the vagina; that, moreover, this condition had existed prior to delivery, as indicated by the state of the infant, and the symptoms both prior and subsequent to delivery; and lastly, that, as he had been in such close attendance on this patient for four days, he most probably was the means of conveying some infectious matter to B and C, the former of whom was delivered about two hours after he left A's house subsequent to her delivery, and the latter on the next day.

Dr. SIMPSON expressed a similar opinion of Dr. Moir's series of cases to what Dr. Moir himself had given,—viz., that the original focus of contagion in them was to be traced to the diseased blood and tissues of the mother who was first delivered and first attacked;—that her blood had affected the infant which she carried within her;—and that probably the vaginal secretions and discharges from the said patient during labour had unhappily formed the virus or material which had been unwittingly carried by Dr. Moir, so as to affect his other patients. It was only by careful and searching analysis of cases of puerperal fever, like Dr. Moir's, when they did occur, that we could hope ultimately to arrive at a knowledge of all the various ways and means in which the disease may originate or be spread, and consequently of all the different means which may be adopted to prevent its spreading. Dr. Hill, of Leuchars, has described one instance which was interesting in this respect, that, as in Dr. Moir's, both the mother and the child seemed affected before delivery. A carpenter had his hand wounded and poisoned with the discharge issuing from a dead body whilst placing the corpse in the coffin. A severe attack of erysipelas followed. Subsequently, his wife had a similar attack of erysipelas. Their daughter living with them, and in the seventh month of pregnancy, was then taken with an attack of fever. In a day or two, she gave birth to a dead child, whose body had all the appearance of being affected with erysipelas, as the arms of the mother's parents previously were. The mother herself died within twenty-four hours, with the symptoms of malignant puerperal fever. On his road home, from visiting this patient, Dr. Hill was called to a case of labour, and this other was also attacked with puerperal fever. Dr. Arneth's very valuable paper adduced what was apparently incontrovertible evidence of puerperal fever being propagated in the way he suggested,—viz., by medical men carrying on their fingers matter capable of producing it from bodies which they were dissecting, and inadvertently inoculating that matter into the mucous membrane of the vagina of patients in labour. In these cases, the fingers of the accoucheur acted like the ivory points or ivory lancets of the old inoculators and vaccinators,—that is, when once dipped in the poison, they might retain it till they had again inoculated that poison into the bodies of other healthy subjects.

The vaginal mucous membrane was generally stretched and abraded in labour, the perineum was often slightly torn, and the whole afforded a surface in a condition easily inoculable. But if students and practitioners, with their hands containing some portions of morbid matter, act thus, by inoculating that matter on the abraded surface of the vagina, produce puerperal fever, no doubt, under similar circumstances, surgeons could and did inoculate into the wounds which they made or dressed, similar matter, producing the similar disease of surgical fever in their patients. If it could be inoculated into the abraded surface of the vagina, it could be inoculated into a recent wound. If it produced fever in the one set of patients, it would produce fever in the other. And, since bringing under the attention of the profession the communicability of surgical fever, Dr. Simpson stated that he had heard various facts in regard to it, all of which more and more convinced him that surgeons, like accoucheurs, were occasionally the unhappy media of inoculating their patients with morbid matter, producing in them surgical fever, as in puerperal patients; obstetricians, by the same means, produced, in their patients, puerperal fever. He had no doubt that it would take many long years fully to convince surgeons of this fact; but still, it was his conviction that surgeons would ultimately both believe and act upon it, and that their doing so would be a means of preventing many of the numerous deaths which now occur after operations, particularly in hospital surgical practice. The mortality in most lying-in hospitals upon the Continent of Europe was very much higher than the mortality in the same institutions in Great Britain and Ireland. He did not think that the diminished mortality amongst us was in any way owing to the fact of superiority on our part in obstetric practice, but it was owing to the fact of British accoucheurs generally having a belief in the contagious communicability of puerperal fever, and taking their measures accordingly. He was sincerely of opinion that the want of that belief was a great cause of mortality in the continental lying-in hospitals generally, and that in them many lives were yearly sacrificed to medical prejudice, in the want of a proper belief, on the part of the medical men in charge of them, in the contagious communicability of puerperal fever; and in such a fatal disease it was ever to be recollected that prevention was a far mightier object than cure. Already, by Dr. Semmelweis's belief in the contagious propagation of puerperal fever, and by the hygienic means which that belief suggested, several hundred maternal lives have, within four years, been saved in the lying-in hospital of Vienna. If one hospital could afford such results in four years, how many maternal lives might be saved over the Continent of Europe, provided all the practitioners of Germany, France, Denmark, &c., could be as thoroughly impressed with the contagious character of puerperal fever as British practitioners and hospital accoucheurs now generally were! Continental accoucheurs generally did not understand exactly the kind or description of evidence upon which British practitioners founded their belief in the contagious communicability of puerperal fever. Some of the continental writers on this subject, he observed, seem to imagine that British obstetricians believed that puerperal fever was usually propagated directly from one patient to another, and, not seeing this occur, when a puerperal fever patient, in their continental hospitals, lay by the side of another healthy woman, they imagine that from this fact they had a disproof of the opinion of the contagious communicability of the disease. But in this country we do not believe that the disease is usually propagated in this way, directly from individual to individual, but indirectly, through the medium of a third person, and that person generally the medical attendant, or nurse. But that it was so propagated by the medical attendant, or nurse, we further believe upon the following species of evidence—viz., that it was, as in Dr. Moir's late cases, and in most other instances, distinctly and precisely limited to the practice of one or two practitioners only, out of a large number of medical practitioners, practising in a large community. Many examples were recorded, and many more unrecorded were known to the profession, of the disease being thus limited to the practice of a single practitioner in a town or city; all, or almost all, the patients of that practitioner being affected with it, where none of the patients of other practitioners were seized with any attack of the dis-



ease. In these cases we could not believe it to be owing to any morbid influence present in the air, or emanating from the locality in these cities or towns. For, if so, it would affect indiscriminately the patients of all practitioners. But it had been often seen, as it was just now remarked, to haunt the steps of a single practitioner, and a single practitioner only, in a community. Many instances of this were known and published. One would suffice for illustration. Dr. Robertson, of Manchester, tells us that, in 1840, upwards of 400 women were delivered by different midwives in connection with the lying-in hospital in Manchester. These 400 women were delivered in different parts of the town, at their own houses: 16 of them died of puerperal fever; all the others made good recoveries. Their production could not have arisen from any general epidemic, or atmospheric, or telluric influence; for the fatal cases occurred in no one particular district, but were scattered through different parts of the town. Now these 400 and odd women were attended in their confinements by twelve different midwives. Eleven of these twelve midwives had no puerperal fever amongst their patients. The sixteen fatal cases had occurred in the practice of one only of the twelve. The disease, in fact, was limited entirely to her patients. There must have been something, then, connected with that one midwife, in which she differed from the other midwives, inasmuch as all her patients took the disease, whilst the patients of all the other midwives escaped from it. And in medical philosophy, we cannot fancy that this something consisted of aught else than some form of that morbid principle or virus to which pathologists give the name of contagion. Further, that the disease is really in such instances propagated by this third person (the physician or the nurse) carrying to the parturient patients a virus capable of producing the disease, is shown by this kind of additional evidence: That, when the disease has broken out in the practice of one accoucheur, it will spread to the practice of others of his obstetrical brethren, provided they put themselves in a condition so as to carry off the contagious virus from the patients of the first practitioner. In 1836, or 1837, Mr. Sidey of this city had a rapid succession of five or six fatal cases of puerperal fever in his practice—at the time when the disease was not known to exist in the practice of any other practitioners in this locality. Dr. Simpson, who had then no full and proper belief in the contagious propagation of puerperal fever, attended the dissection of two of Dr. Sidey's patients, and freely handled the diseased parts. The next four cases of midwifery which Dr. Simpson attended were all affected with puerperal fever, and it was the first time that he had seen it in practice. It was upon evidence of this kind that British pathologists generally reckoned, in founding their belief on the contagious communicability of puerperal fever. And it was evidence of this kind which had intuitively driven them to adopt those means of prevention or avoidance, which are so highly necessary, in order to arrest the propagation of this fearful malady. The measures proposed and so successfully adopted by Dr. Semmelweis in the Vienna Hospital were beautiful from their mere simplicity, but they were full also of a great lesson to us all. They proved, in a manner beyond all dispute, the great importance of carefully ridding the fingers from all matters in the least degree likely to prove hurtful, if inoculated into the vagina of a puerperal patient. And no doubt, as Dr. Arneth had remarked, such matters were always present in the fingers as long as, despite even of common ablutions, they emitted a disagreeable animal odour, the presence of that odour being a perfect proof of the presence of morbid matter capable of producing the odour. Dr. Semmelweis and Arneth recommended, for the purpose of ridding the fingers of this morbid matter, the use of chloride of lime. Dr. Simpson had used for the same object for years daily (or rather generally often during the day) a solution of cyanide of potass, which was more effective even than chloride of lime, and had this other advantage, that it removed readily and at once all such stains as the fingers of the accoucheur were apt to receive in treating uterine diseases—with nitrate of silver, iodine, and the like. Dr. Semmelweis believed that animal matter, in a state of *putrefaction*, was the material which constituted the inoculable virus capable of being transmitted to puerperal patients, and of

producing puerperal fever in these patients. Dr. Simpson had strong doubts as to the idea of this matter being necessarily putrid being correct. We see cases in which animal substances are allowed to putrefy within the vagina, and to be applied to the mucous membrane of that canal, without producing puerperal fever. When a polypus, for example, was ligatured, and left in the vagina, it often was killed and putrefied there for days before the stalk was completely cut through by the applied ligature. And yet in these cases the patient had little or no liability to attacks of disease like puerperal fever. Besides, in these cases, the other condition is present, of an abraded surface, as well as putrid matter in contact with that surface, for the vagina was sometimes doubtless more or less injured in its mucous surface while passing the ligature; and the ligature itself always made a raw, open, and inoculable surface, as it cut through the pedicle of the tumour. Surgery on other parts of the body admitted of many similar proofs against this doctrine. Dr. Simpson had always believed and taught another theory, but not perhaps a perfectly correct one, in regard to the nature of the contagious material. He believed that generally, if not always, the material which, when carried from one subject to another, could produce puerperal or surgical fever in a newly inoculable subject, was an *inflammatory secretion*, just as the inoculable matter of smallpox, cowpox, syphilis, &c., was an inflammatory secretion. The case adduced by Dr. Arneth, of puerperal fever breaking out in the hospital apparently in consequence of matter being conveyed from cancer of the uterus to a series of puerperal patients, was not so strong an argument against the view as might at first sight appear. For the cancer patient was, according to Dr. Arneth's own account, several days in labour, the carcinomatous degeneration of the cervix preventing the opening of the os. And there can be very little doubt that, by the end of several days, the carcinomatous structures were in a state of inflammation, and probably gangrenous decomposition, from the protraction of parturition. At all events, if the carcinomatous cervix was really putrid, it was in all likelihood putrid from the result of gangrenous inflammation in its compressed and irritated structures. But, be this the case or not, it was important to remark that obstetricians had now very decided proof of various kinds of morbid matters which were capable, when inoculated into the vagina, of leading on to puerperal fever. For, first of all—when the bodies of patients who died of puerperal fever were opened, the inflammatory effusions in the abdomen and elsewhere, when brought in contact with the fingers of the accoucheur, were capable of producing the same disease in other healthy patients, upon whom they were accidentally inoculated. In other words, the morbid effusions of puerperal fever in one woman were capable of producing puerperal fever in another woman, when inoculated into her system.—But, secondly, the same seems to hold true with regard to the secretions coming from the bodies of such patients, even when they did not die, and were not dissected. Dr. Simpson alluded to the cases, for example, of nurses and midwives, whose fingers came into contact with the discharges from the vagina of puerperal patients, giving the disease to other parturient women, and who had not, of course, in the way of post-mortem examinations, been bringing their fingers in contact with the more internal secretions. Dr. Gordon mentions more than one case of this kind in relation to midwives, in his history of the Aberdeen puerperal epidemic.—Thirdly, he believed that the cases recorded by the late Mr. Storrs, Hutchinson, Ingleby, and others, sufficiently proved that the inflammatory secretions in some other inflammatory diseases besides puerperal fever, when carried by the medical attendant, and inoculated into the maternal canals of a parturient female, were sometimes capable of producing in such females true puerperal fever. This seemed more particularly true with regard to the inflammatory effusions in erysipelas and gangrenous inflammation of the limbs, scrotum, vulva, or other part of the body. That the morbid matters thrown out in those more subacute forms of disseminated or phlebotic inflammation, which sometimes occur after delivery, were capable of producing puerperal fever when inoculated into puerperal patients, was a fact of some importance to hold in view. And the following recent case will perhaps impress the truth of

it. A short time ago, Dr. Simpson was requested to see a case of pelvic abscess in a patient delivered from four to five weeks previously. The abscess was artificially evacuated, but only with partial relief; as there were evidently other local inflammations going on, both in the abdomen and chest. The patient died about six or seven days after delivery. The practitioner who originally attended her, and who had no puerperal fever cases in his practice, was not able to be present at the dissection. Another able medical practitioner—whom he had called to the case after the inflammatory attack had begun—opened the body. Though an excellent and well-informed physician, he rather decryed any fear about the possibility of contagion, when Dr. Simpson suggested it to him as he came into the room, and found him opening the body. This gentleman had no puerperal fever case in his own practice; but within fifty hours after opening this body, he happened to be called to five cases of midwifery. Four of these patients were attacked with puerperal fever, three in a very severe, and one in a mild or abortive form. The fifth patient altogether escaped, the child having been born before the practitioner's arrival.—Fourthly, there were one or two recorded circumstances which would lead one to the belief that some varieties of febrile exhalations, received by inhalation into the blood of a newly-delivered woman, are capable of producing in her a disease analogous to, if not identical with, puerperal fever, the effect being the same as if morbid matter had been introduced into her blood, not by inhalation into her lungs, but by inoculation and imbibition into the vagina, just as in the spreading of smallpox we see the disease liable to be produced in two ways—first, by the direct inoculation of the morbid inflammatory matter contained in pustules on the arm of a healthy individual; or, secondly, by persons inhaling the morbid effluvia from the bodies of patients labouring under the disease, without being inoculated into them.—Dr. Collins mentions an instance in which a patient was admitted into the Dublin Lying-in Hospital, labouring under a bad form of typhus fever. Two puerperal females, who occupied the adjoining beds, were attacked with puerperal fever, and died. In another instance, in the same hospital, a similar accident happened. A patient labouring under typhus fever was admitted into one of the small wards of the house, which contained only some four beds,—all the three other women were attacked with puerperal fever, and two of them died. But we had no very decided evidence, as far as Dr. Simpson knew, from hospital observation, that a woman labouring under puerperal fever could, by the exhalations from her body, infect with the same disease other patients lying near her in the same ward.—Fifthly, some accoucheurs believe in the possibility of the imbibition of the effluvia from typhus or puerperal fever patients by the clothes of the medical attendant, and that the subsequent inhalation of such matter by the parturient female might be a means of artificially infecting that female with the disease. Dr. Simpson could not doubt that the saturation of the bed-clothes, &c., with the discharges of a puerperal fever patient, might give the same disease to another puerperal patient who was laid in them. This, and one or two other circumstances, were enough to show that, for safety's sake, it was always well to act upon the possibility of the clothes even of the medical attendant being thus a medium of contagion. In some observations on the subject of the contagion of puerperal fever, Dr. Merriman states, that he once attended the dissection of a puerperal patient, but did not touch the body, or any of the parts. The same evening he attended a lady in labour, and she was attacked with the disease. In his account of the Aberdeen fever, Dr. Gordon mentions that a man-servant appeared to carry the infection of the disease from his sister in Aberdeen to his wife in the parish of Fintry, six miles from Aberdeen. The midwife who attended this woman infected two other parturient patients in the same parish, soon afterwards, both of whom died. If a statement of this kind could be established as a fact, by careful analysis of the requisite evidence, it would be a matter of importance, as adding to our knowledge of the modes in which this disease may be propagated. In the instance which Dr. Moir had mentioned, of Dr. Hamilton visiting the patient of another practitioner affected with puerperal fever, and immediately after having several cases in his own practice, it was not at all unlikely that he had made some ex-

amination of the patient, or, at all events, without proof that he had not, it would not be proper to conclude that the disease, in that instance, could be carried by the clothes of the physician acting in the way of *fomites*. Dr. Simpson had also been informed of an instance, by Professor Patterson, in which a medical gentleman, after having lost several cases of puerperal fever, got rid of the disease in his practice by changing his clothes, and using chloride of lime, &c., but it again returned to him when he happened to deliver a patient immediately after wearing a pair of gloves which he had used during the time of the puerperal epidemic; and certainly, if there was any piece of dress more apt to retain the contagion than another, it was this useless and superfluous appendage to our attire; for it might retain the morbid secretions that were originally on the fingers of the accoucheur, just as our vaccinating glasses would retain the cowpox matter. Again, in a small ward or small hospital, one could almost, as it were, produce puerperal fever at will, by crowding a great number of puerperal patients together in the same ill-ventilated room. The discharges from the different patients, in a few days, render the air of such a room so loaded and morbid, as to be oppressive to all entering it, and capable of producing febrile action by the inspiration of it, in those puerperal patients who occupied its bed. This, no doubt, was true when this experiment was driven, as it sometimes accidentally had been, to an extreme. But it was true, also, in its lesser degree; for Dr. Simpson believed that one great cause of weed, ephemera, and febrile attacks during puerperal convalescence, was the still too slight attention that was paid to the ventilation of the lying-in chamber. He had repeatedly, he thought, seen more or less slight febrile action set up in a patient, from her curtains being closely drawn around her bed for eight or ten hours during the night, being thus obliged to breathe an air loaded and affected with the morbid animal discharges from her own body. Dr. Arneth had not alluded to the question: Whether the disease was ever caused or not, or a predisposition at least given to it, by epidemic influence? Dr. Simpson believed that we ought not to forget altogether the possibility of epidemic influences acting, directly or indirectly, in the causation of it. During the present century, the disease had nearly, in two or three instances, as in 1819-20 and 1829, prevailed in most of the cities and lying-in hospitals of Europe. And it was difficult, or impossible, to account for this simultaneous existence everywhere, without believing that everywhere there was some general epidemic cause tending to its production. In this, the history of puerperal fever did not differ from the history of other contagious febrile diseases. During the latter part of the last century, for instance, smallpox contagion existed in almost every town and village in England, because, in almost every one of them, there were artificial causes operating to produce and perpetuate the disease, inoculation being very generally practised. But it was only in particular years, and sometimes at a considerable distance of time, that the disease became epidemic. And when it did so, it was owing to other causes being in action in addition to the mere inoculation. Nay, more, in some conditions, as during the blowing of the Harmattan wind, we know that smallpox and cowpox cannot be propagated even by direct inoculation—facts showing us the influence of epidemic constitutions in effecting a greater or less tendency to the production and spread of particular diseases. One predisposing cause to attacks of puerperal fever was, no doubt, the state of the constitution of the patient immediately after delivery. Dr. Collins's cases in the Dublin Hospital showed, not only that the disease was far more apt to attack those who were worn out by long labours than those women who had escaped with parturitions short in their duration, but also that the malady, when it did appear, was much more fatal in the former than in the latter class of patients. The Society was aware that it had been proposed, by various pathologists of late years, to give various prophylactic medicines to puerperal patients after delivery, and to surgical patients after operations, in order to prevent the attacks of puerperal or surgical fever. All these measures, such as sulphate of quinine, muriate of iron, &c., had the object in view of strengthening the constitution of those to whom they were exhibited, so as to diminish or destroy the predisposition to these feverish attacks. And we could understand their proposed mode of action, when we reflected upon the fact that a predisposition to

such attacks was given by any unusual degree of exhaustion or debility in the patient. Every patient exposed to the contagion, and even to the inoculation, of smallpox, for example, did not take smallpox. There were other means by which the predisposition to that disease was reduced or removed, than by previous variolation or previous vaccination. And perhaps, particularly, or otherwise, by medicine, we may be able to reduce or remove the predisposition to puerperal fever, as well as to scarlatina, measles, &c. Lastly, Dr. Simpson observed, no doubt, sporadic cases of puerperal fever did, and were from time to time occurring, traceable to no contagion, or any other cause capable of being averted; but owing, as in Dr. Moir's first case, to morbid actions going on in the constitution of the patient even before delivery; or to morbid agencies capable, under other circumstances, of producing fever or inflammation acting upon the patient in delivery. Dr. Arneth had particularly called the attention of the Society to the connection which was generally believed by British accoucheurs to exist between erysipelas and puerperal fever; and he had stated that the relation between these two diseases had not been observed in Vienna. Dr. Simpson, however, expressed his opinion, that now that Dr. Arneth's attention had been directed to it, he and his compatriots would find such relations existing between these two diseases, which English accoucheurs spoke of. Dr. Simpson had long believed and taught that there was a pathological connection between the two diseases in question, as to their pathological nature, their pathological anatomy, their symptomatology, and their causation. The two diseases had in Britain been repeatedly observed to prevail at the same time, in the same town, in the same hospital, or even in the same wards. There were various accurately recorded instances in our British journals, which he had already alluded to as showing this—that when the fingers of medical men were impregnated with the morbid secretions thrown out in erysipelatous inflammation, the inoculation of these matters into the genital canals of our parturient females produced puerperal fever in them in the same way as the inoculation of the secretions from patients who had died of puerperal fever itself. The effused morbid matters in the one disease, as in the other, were capable of producing the same effect when introduced into the vagina of a puerperal patient. Of this connection, Dr. Simpson proceeded to relate several remarkable examples.

Whilst thus arguing for some pathological connection between erysipelas and puerperal fever, Dr. Simpson further stated that, though in a few cases patients labouring under puerperal fever had been attacked with erysipelas of the skin and cellular tissues—and, on the other hand, patients who were delivered when suffering under erysipelas were sometimes subsequently attacked with puerperal fever—yet these results were not always observed. He alluded to cases where erysipelas had attacked women before delivery, but was not followed by puerperal fever. And he had seen more than one patient labouring under puerperal fever have inflammation of the skin, but that of a pustular type, like ecthyma, and not of an erysipelatous character. In stating this, he wished to express his belief that the diseases were not in all respects pathologically identical, though the morbid secretions in the one were capable of producing, in those predisposed to it, the other disease—erysipelatous effusions producing puerperal fever, and puerperal fever secretions producing erysipelas. Other febrile and inflammatory products, besides those of puerperal fever, when inhaled through the lungs into the blood, or inoculated into the blood through the vagina, may, as already stated, probably produce puerperal fever in addition to those we have principally spoken of, viz., the secretions from puerperal fever and erysipelatous patients.

—Dr. PEDDIE said, that he had given a good deal of attention to the subject of puerperal fever, from the occurrence of some cases in his practice, upwards of five years ago; and he quite agreed with Dr. Arneth, in his excellent remarks on the danger of obstetrical manipulation, after being recently engaged in *post-mortem* examinations. That, he thought, was now a pretty generally admitted opinion in this country. Dr. Robert Lee, of London, Dr. Merriman, and others, had, many years since, mentioned cases in proof of this source of danger; and, of late, accoucheurs in this city had exercised much caution.

To point out still more strongly the risk of accoucheurs handling morbid preparations, he would notice what he believed to be a fact, that the series of puerperal fever cases which Dr. Simpson had mentioned as occurring in his practice some years since, from assisting at an autopsy of one of Dr. Sidey's puerperal cases, did not end there, but that a practitioner in Leith, having examined, in Dr. Simpson's home, a portion of the uterus obtained on that occasion, had immediately thereafter three fatal cases of the fever in his own practice. With regard to the power of the solution of the chloride of lime as a disinfecting wash for the hands of those engaged in midwifery practice, Dr. Peddie had no doubt; and, in that belief, he had personally used it much. Dr. Peddie finally recapitulated his own cases of puerperal fever, noticed by us in a former volume. (IV. 266.)

[We have devoted more space than usual to the subject of puerperal fever, and have reported the observations of the different speakers in this debate with but little condensation; but we consider the question of the contagious nature of puerperal fever and its alliances with other diseases so important, that we feel confident that our pages cannot be more usefully employed than in impressing upon our readers the facts above related.—Ed.]

21. *Placenta—Fatty Degeneration of.*—An elaborate Memoir on Fatty Degeneration of the Placenta, and its Influence on Parturition and the Viability of the Fœtus, has been published in the "Medico-Chirurgical Transactions,"\* by Dr. BARNES.

The author commences by relating two cases of premature delivery at the seventh month. In the first, flooding occurred twice without obvious cause, and unaccompanied by pain, at the third month, and again at the seventh month, when labour followed. In the second case, there was no hemorrhage previous to delivery. In both cases, death of the child had occurred some time previous to delivery. In both cases, the placenta was studded with fatty masses, apparently isolated from the surrounding structure; these masses were firm, yellowish-white, and bloodless. On careful dissection, it was obvious that the diseased and apparently healthy portions of the placenta were continuous, and that the fatty masses were the result of fatty deposit or degeneration in the proper placental structure. In one case, branches of the umbilical vessels in an atrophied condition were traced through several of the fatty masses. In the examination of the minute structure of the altered parts, the author had availed himself of the assistance of Dr. Hassall. The following conclusions had been arrived at: The placental villi were thickly studded with innumerable minute spherules of oil. The chorion was much altered, thickened, destitute of nuclei, of a yellow colour, and more or less broken and detached from the vessels. The umbilical capillaries no longer presented nuclei in their walls, these being replaced by spherules of oil. The spherules of oil were contained, some in the chorion, others in the walls of the blood-vessels, many in the intervals or spaces between these. The cavities of the vessels were almost exclusively free from fatty depositions. The vessels were destitute of blood. In some parts, the process had extended to complete disintegration of original structure. In those parts that, to the naked eye, appeared healthy, evidences of fatty deposit and degeneration being in progress were observed. A number of specimens of sound placenta had been examined, and the occurrence of a certain proportion of oil as a normal constituent had been determined. The author regards the fact of the occurrence of this change of structure in the placenta a highly interesting, both to the pathologist and to the obstetric practitioner, and likely to throw light on the disputed question as to hereditary transmission of predisposition to fatty degeneration. It shows how rapidly such change of living structures may take place. The conversion of portions of placenta into solid unyielding structure, and the consequent imperfect attachment of these portions, and of the surrounding healthy structure, to the womb, may give rise to hemorrhage, and premature labour may occur possibly during the life of the child. A more frequent occurrence, probably,

\* Vol. xxxvi.

is the destruction of the fœtus in consequence of imperfect nutrition, and by a process of slow asphyxia. Fatty degeneration may also cause abortion in the early periods, the ovum being affected. With reference to treatment, it was suggested, whether the known disposition to this destructive change, if established by the observation of preceding pregnancies, might not warrant the induction of premature labour, with the view of anticipating the period at which the fœtus would almost certainly be destroyed if left in the womb. Some suggestions were also offered with reference to the general treatment to be adopted with a view of counteracting the disposition to fatty degeneration before and during pregnancy. The paper concluded with the expression of the hope entertained by the author, that his account of the process of fatty degeneration in the placenta would be accepted as a useful contribution in extending the knowledge of an important subject in general pathology, and in directing attention to a source of danger to mother and offspring comparatively unnoticed in obstetric practice.

### § III.—Diseases of Children.

22. *Congenital Syphilis*.—The transmission of the venereal poison from the parent to the offspring has lately attracted much attention, having been made the subject of a lengthened debate before the "Académie de Médecine" of Paris. The discussion arose upon a memoir by M. DEPAUL, describing a peculiar disease of the fetal lungs, which he attributed to the syphilitic poison, and which in one or two instances was accompanied by bullar eruptions resembling pemphigus. This memoir was reported on by M. Cazeaux, who disputed the venereal origin of the pulmonary lesions in question, and stated his opinion that, as constitutional syphilis rarely showed itself before the second and third week after birth, the vesicular reception existing at birth was of doubtful origin.

M. Ricord, a great authority on these matters, does not disbelieve in a syphilitic variety of pemphigus, inasmuch as all cutaneous affections have their syphilitic representatives; and the reality of the disease was also attested by M. Paul Dubois, who gave a minute description of its phenomena.

—A large collection of facts bearing upon the hereditary transmission of syphilis are assembled in Mr. WHITEHEAD's volume before mentioned,\* from which he arrives at the conclusion that the poison may be transmitted to the offspring long after the outward manifestation of it has ceased in the parent, and, likewise, that the secondary form may be communicated from the nurse to the infant, and *vice versa*.

The forms under which infantile syphilis shows itself are stated by Mr. Whitehead to be of seven varieties: 1st, exanthemata; 2d, squamæ; 3d, papulæ; 4th, tubercular; 5th, pustulæ; 6th, vesiculæ; 7th, pemphigus.

Of these, the first is liable to appear at the end of the first week after birth, and attacks most commonly the face and breech. The eruption is commonly attended after a time with disorder of the mucous membrane, which is, for the most part, the immediate cause of death.

Of the squamous eruption, the leprous variety commences as small patches on the cheeks, hands, and feet, which take on a serpiginous aspect. The author regards this as one of the clearest manifestations of the poison.

Psoriasis occurring in the infant is also, he says, almost invariably syphilitic.

The author has met the tubercular eruption under four distinct forms. Of these, the first is the flat tubercle, which is very common, generally occupying the face and nates, as a flat shining blotch, of a coppery hue, elevated above the surface.

Another variety, common in infancy, is a tubercular elevation, which first appears at the angle of the mouth, or ala of the nose. The perforating tubercle is a more severe form, appearing after the child has been worn out by other syphilitic phenomena.

A fourth variety of tubercular disease is one which the author has witnessed at birth in one instance only: "they were the size of peas, hard, of a purple colour, and equally distributed over the body."

\* Op. cit., p. 284.

Of pemphigus, the author states, that it is probable that some of the cases of desquamation of the cuticle seen in still-born infants, are the result of intra-uterine pemphigus. When the disease exists at birth, he informs us that it may be looked upon as likely soon to end fatally. This form of disease in the infant generally occurs in the instance of mothers who have had the primary disease during pregnancy, as also in others who possess the hemorrhagic diathesis. Allied to this form of disease, is an inflammatory affection of the genital mucous membrane, which is rapidly followed by sloughing. (Op. cit., p. 280.)

23. *Local Paralysis in the New-born Infant.*—M. DANYAU has reported the examination of an infant, which throws some light on the paralysis of the face and upper extremities, occasionally, but rarely, seen at birth, and the result of compression, as supposed by Smellie, by whom a single case is given. The infant alluded to by M. Danyau was apparently still-born, but was restored after some trouble. It was soon observed to have paralysis of the left side of the face and of the left arm, which dangled motionless at its side. On examining the left side of the neck, M. Danyau observed a scar, which was evidently the result of the blade of the forceps. The child died when it was found that the brachial plexus was surrounded with ecchymosis and serous exudation. He therefore concluded, that the paralysis of the arm, as well as of the face, had been caused by injury to the nerves, through the compression exercised by the forceps during delivery.

24. *Compression of the Cranium during Birth.*—Dr. OGIER WARD read a paper on this subject to the Royal Medical and Chirurgical Society. The immediate object of which was to draw attention to the compression of the bones of the skull during parturition, and the influence which this exerted on the after condition of the child, whether physical or mental. After stating that he distinguished the deformity produced by its situation, and the bone or bones more immediately implicated in the abnormal condition, he proceeded to enumerate the immediate and remote consequences of the pressure. These consisted of symptoms of imperfect cerebral development and its consequences, together with a train of dyspeptic symptoms, of which flatulence was the most prominent. He also considered that epileptic convulsions and paralysis might result from the same cause. After referring to the influence which Foville attributed to the strange head-dress of the children in Normandy, in the production of insanity, the author threw out the hint that compression exerted on the head during parturition might have a similar effect. With respect to the treatment of the effects of compression, the author recommends, that when the child is born asphyxiated, free inspiration should be established as quickly as possible; and to effect this, he advises that the child should be made to cry by birching it with a single twig, &c.; he states the bones of the head may be seen to expand immediately that free inspiration is established. He considered that manipulation of the bones of the head was of no service in these cases, unless the whole head was affected. The paralysis and other results which he had enumerated, were to be treated in the usual manner, regard always being had to the immediate and peculiar cause of the affection. In the discussion which ensued, the questions mooted had reference chiefly to one point in the paper. Did the pressure exerted on the head by parturition really have such effects as those described? On one side it was contended that such pressure was injurious in the manner described by the author; and cases were related in point to show that such was the fact; in these cases, convulsions, and other disorders of the nervous system, were present. The experience of Foville also was alluded to with regard to the compression which was exerted by the Norman cap on the heads of children. Two fingers could be put into the indentation so produced. Foville had regarded this as a frequent cause of mania. It was asked, whether the pressure on the head of the Carib had any influence in the production of mental disease? On the opposite side, however, cases were referred to, in which deformities existed similar to those described in the paper, but the children so affected had no sign or symptoms of disease about them,



and the distorted parts became quite restored without interference. In support of the opposition to Dr. Ward's conclusion, the condition of the child's head after delivery was referred to. Frequently, after difficult or protracted labours, the heads were of all shapes, and yet how quickly, by the efforts of Nature, did the heads assume their proper form! Even large extravasations of blood were removed in an incredibly short space of time.\*

25. *Precocious Sexual Appetite in a Child Five Years Old.*—Although the effects of the destructive habits of masturbation are generally recognized in the adult, medical men are not prepared to find this vicious indulgence in young children; and are apt, on this account, to be misled in certain instances of failing health in little children, especially of the female sex. Dr. HAINES relates a case in which this habit was carried on to a frightful extent in a child five years of age, and continued in spite of every kind of treatment, medical and moral, including seclusion in an asylum with the most assiduous watching.

\* *Lancet*, March 15, 1851.

## OUR RELATIONS WITH HOMŒOPATHY AND OTHER FORMS OF IRREGULAR PRACTICE.

---

[THE extent to which homœopathic impostures have been carried, and the temptations held out by it to the unscrupulous or unsuccessful medical practitioner, have at length roused the profession throughout the length and breadth of the land ; and as a result we find several influential societies have determined upon a line of conduct likely to redound at once to their own dignity, and to do much to save the public from the evil consequences of combined ignorance and fraud. Foremost in the good fight has been the Provincial Medical and Surgical Association of England, which passed the following resolutions at the last Anniversary Meeting.]

### PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

#### *Report on Irregular Practice.*

Your committee have, after consultation with numerous members of the association, maturely considered the subject referred to them, and beg respectfully to suggest the adoption of the following resolutions:—

1. That it is the opinion of this association that homœopathy, as propounded by Hahnemann and practised by his followers, is so utterly opposed to science and common sense, as well as so completely at variance with the experience of the medical profession, that it ought to be in no way or degree practised or countenanced by any regularly educated medical practitioner.

2. That homœopathic practitioners, through the press, the platform, and the pulpit, have endeavoured to heap contempt upon the practice of medicine and surgery as followed by members of this association, and by the profession at large.

3. That for these reasons it is derogatory to the honour of members of this association to hold any kind of professional intercourse with homœopathic practitioners.

4. That there are three classes of practitioners who ought not to be members of this association—viz., 1st, real homœopathic practitioners ; 2d, those who practice homœopathy in combination with other systems of treatment ; and 3d, those who under various pretences meet in consultation, or hold professional intercourse with those who practice homœopathy.

5. That a committee of seven be appointed to frame laws in accordance with these resolutions, to be submitted to the next annual meeting of the association.

6. That the thanks of the association are eminently due, and are hereby given, to the presidents and fellows of the Royal Colleges of Physicians and Surgeons of Edinburgh, for their determined stand against homœopathic delusions and impostures.

7. That the thanks of the association are also due, and are hereby given, to the Universities of Edinburgh and St. Andrew's, for their resolution to refuse their diplomas to practitioners of homœopathy ; but the association feels imperatively called on to express its disapproval of any school of medicine which retains among its teachers any one who holds homœopathic opinions.

8. That these resolutions be printed, and transmitted to all the medical licensing bodies and medical schools in the United Kingdom ; and that they

likewise be inserted in the "Times" newspaper, the "Morning Post," the "North British Advertiser," "Saunders's News-Letter," all the British and Irish medical periodicals, and in such other journals as the council may sanction upon the recommendation of the branch associations.

In proposing these resolutions for the adoption of the association, your committee are anxious to state that they are actuated by a strong sense of the importance of the subject in its relation both to humanity and morals. They most conscientiously believe that the countenance afforded to the form of charlatanism herein alluded to is as detrimental to the true interests of the public, as it is subversive of that strict integrity which ought to characterize practitioners of medicine, and which has ever distinguished the profession in these kingdoms.

J. R. CORMACK, M. D., F. R. C. P. E.

J. TUNSTALL, M. D.

W. H. RANKING, M. D.

[The Medico-Ethical Society of Manchester has appealed to the Royal College of Surgeons of England, calling upon them to exercise their powers in removing from the list of members the names of those members who practice homœopathy. *This the College has deemed it inexpedient to do.*]

*To the Council of the Royal College of Surgeons of England.*

#### The Memorial of the Medico-Ethical Association of Manchester

Respectfully sheweth: That a large majority of your memorialists possess the diplomas of your college, either as fellows or members.

That your memorialists have learned that upwards of fifty members of the college are engaged in the practice of homœopathy in London and the provinces, and that the number is on the increase.

That your memorialists also regret that there are practitioners, who, for the most part, are entitled to the highest respect of their fellows, but who, under some distorted notions of propriety, have become the abettors of this apostasy on the ground of diagnosis.

That your memorialists, since the formation of their association, have been restrained by one of its by-laws from all professional intercourse with homœopathic practitioners.

That while your memorialists would emphatically commend the passive resistance which the medical profession has hitherto offered to this system of imposture and delusion, they believe the time has now arrived when the dignity of the college to which they belong must be vindicated, and the honour of its members shall cease to be degraded by ignominious associates.

That your memorialists are encouraged to press this subject on the attention of the council, by the fact that the Royal College of Physicians of Edinburgh, in a resolution recently adopted, "expresses an earnest hope that those fellows, seeing they have virtually separated themselves from the college, will spontaneously sever their further connection with an institution that repudiates them, and from which they can derive, as merely nominal fellows, nothing else than a false position and a spurious credit."

That your memorialists would suggest that, in imitation of this resolution, the council exercise the power conferred by clause 3, section 20, of the by-laws of the college, of removing from the list of members any person who has rendered himself disgraceful to the college; and that the council also protest against the unworthy association of scientific practitioners with homœopaths on the fallacious ground of diagnosis.

That your memorialists will ever aid in upholding the ethics of a college whose honour and dignity are outraged, and whose members are insulted.

JAMES L. BARDSLEY, M. D., President.

JOHN AIKENHEAD, M. D. } Hon. Secs.

W. C. WILLIAMSON, }

Manchester, Sept. 3, 1851.

[The practitioners of Guernsey, with a spirit worthy of imitation, have addressed the following letter to the committee on irregular practice appointed by the Provincial Medical and Surgical Association.]

*To the Committee on Irregular Practice of the Provincial Medical and Surgical Association.*

Guernsey, Sept. 10, 1851.

Gentlemen: We, the undersigned, medical practitioners of the Island of Guernsey, beg to offer our warm congratulations, and sincere thanks, to the Provincial Medical and Surgical Association, in general, and to you as their committee in particular, for the manly and straightforward resolutions unanimately adopted at a meeting of that body, held at Brighton on the 14th ultimo.

We likewise desire to express our cordial approval of the uncompromising tone of the speeches delivered on that occasion, when, in our humble opinion, the principles of truth, honesty, and morality, were elucidated, the science of medicine vindicated, and the injurious tendency of homœopathy—its hollowness, absurdity, and dishonesty—demonstrated by clear, comprehensive, and irrefragable facts.

We would fain hope that the dignified manner in which the association has responded to the movement of the Universities of Edinburgh and St. Andrew's, to expose and discard homœopaths, will be followed by the English and Irish Colleges, and thus enable Great Britain to set as bright an example in checking error, and upholding truth in medicine, as she has recently done in religion.

We derive additional satisfaction in addressing the Provincial Medical and Surgical Association, from having throughout firmly, advisedly, and conscientiously resisted all attempts to induce us to hold intercourse with homœopathic practitioners, or to countenance a system the offspring of quackery, the refuge of imposture, and the nursing of dupes.

We now calmly wait the course of events, satisfied that truth and honesty will prevail, and that homœopaths who seek to be considered as regular practitioners, and pertinaciously shelter themselves under the ægis of medical institutions, will ultimately be exposed and repudiated.

We have the honour to be, Gentlemen,

Your obedient Servants,

JOHN MAUGER, M. R. C. S., Eng.

J. ELLIOT HOSKINS, M. D., F. R. S.

M. MATGARTH BRESH, R. N.

DE BEAUVOIR DE LISLE, M. D., &c.

[The Edinburgh Colleges of Physicians and Surgeons have issued the following manifesto.]

*Resolutions unanimously adopted by the Royal Colleges of Physicians and Surgeons of Edinburgh, regarding Practitioners of Homœopathy.*

# I.

At Edinburgh, and within the College Hall there, the 9th day of May, 1851, an extraordinary meeting of the Royal College was held, pursuant to a Resolution agreed at the last Quarterly Meeting, and of which extraordinary meeting due notice was given.

The President in the Chair. The following Resolutions were moved, seconded, and unanimously agreed to:—

1. That the Royal College of Physicians of Edinburgh did, several years ago, publicly express its opinion of Homœopathy and Homœopathic Practitioners, by peremptorily declining to admit into its body a Candidate for its Fellowship who belonged to that denomination; and, consequently, that no Fellow of the College can possibly be ignorant of the light in which all those who practice Homœopathy are regarded by the College.

2. The College regrets that, notwithstanding this decided expression of its opinion, more than one of its Fellows, after being admitted in a different character, have endangered the reputation of the College by becoming Homœo-

pathic Practitioners; and the College expresses an earnest hope that these Fellows, seeing they have thus virtually separated themselves from the College, will spontaneously sever their further connection with an Institution which repudiates them, and from which they can derive, as merely nominal Fellows, nothing else than a false position and a spurious credit.

3. The College feels the more bound thus to express its opinion, seeing that those Fellows who have become Homœopathists, and any other Medical Practitioners who follow Homœopathy, must necessarily be aliens to the other Fellows, and to the Profession at large; inasmuch as no Fellow of this College, or any other Physician can, by any possibility, without derogating from his own honour, and from the honour of the profession, meet Practitioners of Homœopathy in consultation, or co-operate with them in the other common duties of professional life.

4. That although the College has not thought it expedient hitherto to take any active steps for disclaiming those Fellows who have become Homœopathic Practitioners subsequently to their admission to the College, nevertheless, since it has the power of dealing summarily with those who act in a manner so unbecoming the character of a Physician, it reserves its right to exercise that power when it shall be so advised.

Signed in name, and by authority, of the College,  
J. Y. SIMPSON, *President*.

## II.

At a meeting of the Royal College of Surgeons, held on the 16th of May, the following Resolutions were moved by the PRESIDENT, and unanimously carried:—

1. The College, having considered a series of Resolutions transmitted by the Royal College of Physicians (of Edinburgh) in regard to Homœopathy, feel called upon to express their opinion, that the system so designated, being entirely inconsistent with the principles professed by candidates for the diploma of the College of Surgeons, any Fellow or Licentiate who practises it, or countenances others in doing so, by meeting them in consultation, will justly incur the disapprobation of the College.

2. That a copy of the above Resolution be transmitted to the Royal College of Physicians.

Signed in name, and by authority, of the College,  
JAMES SYME, *President*.

[At a meeting of the Edinburgh Medico-Chirurgical Society, held on Nov. 19, 1851, the sentiments of the members were expressed in unmistakable language. Nothing can be more happy than Dr. Simpson's *exposé* of the absurdity of homœopathic doses; and of the brilliant *début* of Dr. Henderson, with a box of globules, the contents of which, aconite, sulphur, rhus, arnica, &c., &c., &c., had been inextricably confounded and mixed up, through the playful pertinacity of Dr. Simpson's little boy.]

## EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

A full meeting of the Edinburgh Medico-Chirurgical Society was held on the 19th November, no less than sixty-four members being present. After the transaction of routine business, the following interesting circumstances occurred:—

Professor Syme, in moving "That the public profession of homœopathy shall be held to disqualify for being admitted or remaining a member of the Medico-Chirurgical Society," said: That in addressing the Society on this occasion, he considered it to be quite unnecessary to enter into a formal refutation of the principles of homœopathy; but, before proceeding further, he would exculpate himself from the charge of inconsistency brought against him by Dr. Henderson, to the effect that he had himself countenanced homœopathy in two instances. This charge appeared at the time in the various medical periodicals. Now, regarding this inconsistency as tantamount to a practical falsehood, he (Mr.

Syme) took the present opportunity of exhibiting the falsities of the accusation. The cases to which Dr. Henderson alludes are two in number. The fact is, there was a young man who had been under the care of Dr. Nimmo, and who had been placed under his (Mr. Syme's) care. Finding that he had been attended by Dr. Henderson, Mr. Syme requested a meeting, not for the purpose of consultation, but to arrange for placing the medical treatment under the hands of another physician—Dr. John Taylor—as Mr. Syme felt that he could not co-operate with Dr. Henderson. In the second case, he met Dr. Henderson, being under no pledge not to do so. This is the whole extent of his countenance of homœopathy. Mr. Syme next stated what he conceived to be the duty of every member of the profession. As an individual, he had long refused to adopt homœopathy, because he regarded it as a mischievous folly. As a member of a licensing board, he would not refuse any candidate who complied with the regulations of the University. If such an one were base enough to disguise his real sentiments in regard to the practice of physis, the disgrace would rest with him and not with the board. The duty of a Society like the present was, he said, clear. It was a voluntary association for upholding sound principles of practice, and for elevating professional character. If, therefore, a member departed from the principles of the Society, and placed himself in opposition to them, he should be requested to withdraw from their body; or, if seeking admission, he should be excluded. He trusted the motion would be unanimously adopted.

Professor Simpson seconded M. Syme's motion, and alike also defended himself from the charge of meeting homœopaths in consultation, which emanated from the same quarter. Dr. Henderson affirmed that Dr. Simpson had met him in consultation on some cases; Dr. Simpson, therefore, called upon Dr. Henderson to ask what these cases were. It so happened that Dr. Simpson had anxiously attended Dr. Henderson's own wife; but she, with her husband's sanction, was treated on the ordinary principles of scientific medicine, and not homœopathy. In doing this, no one would accuse Dr. Simpson of countenancing homœopathy. Dr. Henderson, however, mentioned two cases—one of uterine disease, and the other of disease of the labium. Dr. Henderson had, it is true, previously attended them, and had asked Dr. Simpson to take charge of them, but he did not attend them with or for Dr. Henderson. In one other case he certainly did meet Dr. Henderson at the bedside, but this was a case involving an operation, and not internal treatment; but even in doing this much, Professor Simpson was now convinced he acted wrongly; he had erred in going thus far. However, even if Dr. Henderson's statements had been true to a far greater extent, it only proved that hitherto the profession had been over-indulgent to him and his heresy, believing, as his friends did, that the delusion would soon subside. But because they had been over-tolerant, it was no reason why they should continue so. It now became the duty of the Society to make their stand, feeling that every proper consideration for themselves and the noble science they cultivate, calls imperatively for a complete casting off of homœopathic practitioners, as abettors of delusions and errors. Dr. Simpson proceeded to draw a parallel between these impostors and the brothers in another profession—Joe Smith and the Mormons. These two heresies, the Homœopathie and the Mormonite, had, in fact, many points in common, and were both equally absurd. Some homœopaths profess Hahnemann to have been inspired [Witness the ravings of the clerical witling quoted by Dr. Cormack:] as the Mormonites do of Joe Smith. It is true we have no standard of faith whereby to test medical opinion, but we have the standard of common sense. Judged by this, Hahnemann's dogmas are a tissue of the strangest contradictions and the wildest absurdities. If a grown-up man were seriously to say that two and two make five, he would not be considered sane, as he defies the dictates of common sense. When other grown-up men tell the world that they can cure this or that disease by the billionth or decillionth of a grain of a drug, they express an opinion more palpably absurd than that of him who says that two and two make five. If men would reflect what a billion or a decillion really is, they would not be so childishly credulous. There is no poison so strong that a billionth of a grain would in the least affect even a fly, much less



## BOOKS RECEIVED.

1. Miss Martineau and her Master. By Dr. Bushnan. Lond., Churchill, 1851.
- \* \* *A severe but well-merited critique on a book which is a disgrace to the press of a Christian country.*
2. The Laws of Health in Relation to Mind and Body, a Series of Letters from an old Practitioner to a Patient. By Lionel Beale, M.R.C.S. London, Churchill, 1851.
3. The first Step in Chemistry. By Robert Galloway, F.C.S. London, Churchill, 1851, pp. 89.
4. The Wisdom and Beneficence of the Almighty as displayed in the Sense of Vision. (The Actonian Prize Essay for 1851.) By J. Wharton Jones, F.R.S. London, Churchill, 1851, pp. 135.
5. Gout; its History, Causes, and Cure. By W. Gairdner, M.D. Second Edition. London, Churchill, pp. 300.
6. Practical Treatise on the Diseases of the Lungs and Heart, including the Principles of Physical Diagnosis. By W. H. Walshe, M.D., &c. London, Taylor and Walton, pp. 580.
7. Digitaline. Rapports de MM. Rayer, Soubeiran, et Bouillaud. Paris, 1851.
8. Observations on the Movements of the Chest in Phthisis. By Dr. Payne Cotton. (Reprint.)
9. Inquiry into the Subject of Vaccination. By Benjamin Ridge, M.D. London, Churchill, p. 31.
10. Experimental Researches on the Nervous System. By Dr. Bennett Dowler, New Orleans, 1850.
11. On the Preservation of the Health of Women at the Critical Periods of Life. By E. J. Tilt, M.D. London, Churchill, 1851.
12. Practical Observations on the Treatment of Permanent Stricture. By Robert Wade, M.R.C.S. (Reprint.)
13. Practical Treatise on the Management of Diseases of the Heart, and of Aneurism, with especial Reference to the Treatment of these Diseases in India. By Norman Chevers, M.D. Calcutta, 1851, pp. 145.
14. Bulletin de la Société de Chirurgie de Paris. Tome premier Svo. Paris, 1851.
15. Mémoires de la Société de Chirurgie de Paris.
16. Memorials of James Mackness, M.D. Churchill, 1851.
17. On the Infectious Origin and Propagation of Cholera. By Alexander Bryson, M.D. London, 1851.
- \* \* *A closely reasoned production, with a large accumulation of authentic evidence in favor of the contagious nature of cholera.*
18. The Spine, its Curvatures and other Diseases, &c. By Charles Varrall, M.R.C.S., &c. London, Churchill, 1851.
19. History of Epidemic Pestilences from the Earliest Ages. By Edward Bascome, M.D. London, Churchill, 1851.
20. Prevention and Cure of Chronic Disease by Movements, &c. By W. Roth, M.D. London, Churchill, 1851.
21. Collection of Facts Illustrative of the Morbid Conditions of the Pulmonary Artery. By Dr. Norman Chevers, M.D. (Reprint.)
22. Suggestions for the Extension of Vaccination. By J. Redford, Esq., India. (Pamphlet.)
23. On the Pathological Anatomy of Bronchitis and Diseases of the Lungs, connected with Bronchial Obstruction. By W. T. Gairdner, M.D. (Reprint.)
24. The Climate of Sidmouth. By W. Cullen, Esq.
25. Report of the Proceedings of the Pathological Society. 5th session. 1850—1851.
26. On the Nature and Treatment of Softening of the Brain. By Richard Rowland, M.D. London, Highley, 1851.
27. The Anatomy and Diseases of the Prostate Gland. By John Adams, Esq., F.R.C.S. London, Longmans and Co. 1851.
28. Lectures on the Principles and Practice of Surgery. By Bransby Cooper, F.R.S. London, Churchill, 1851, 8vo, pp. 985.
29. The Principles and Practice of Obstetric Medicine and Surgery in reference to the Process of Parturition. By Francis Ramsbotham, M.D. Third Edition, enlarged. London, Churchill, 1851, pp. 726.
30. Lectures on the Physical Diagnosis of the Lungs and Heart. By Herbert Davies. London, Churchill, 1851.
31. Compendium of Materia Medica and Pharmacy. By John Hunter Lane, M.D. Second Edition, 1851.
32. The Pocket Formulary and Synopsis of the British and Foreign Pharmacopœia. By Henry Beaseley. Fifth Edition, 1851.
33. New London Pharmacopœia. Arranged with Reference to the Edinburgh and Dublin Codex. By Peter Squire. London, Churchill, 1851.
34. The Stethoscope and Virginia Medical Gazette.
35. Transactions of the Medical Society of Pennsylvania.



## BIBLIOGRAPHICAL RECORD.

WHEN NOT OTHERWISE STATED, ALL BOOKS PUBLISHED IN LONDON.

1. Of Happiness in its Relations to Work and Knowledge. By John Forbes, M.D., F.R.S. 2s.
2. On the Physiology and Diseases of Women, and on Practical Midwifery. By John Robertson, formerly Senior Surgeon to the Manchester and Salford Lying-in Hospital. 12s.
3. The Medical Officer's Manual; containing Information relative to his Appointment, Qualification, Remuneration, Duties, Liabilities, Exemptions, Disqualifications, &c., &c. By William Golden Lumley, Esq., Barrister-at-Law, Assistant Secretary to the Poor-law Board. 3s.
4. Phthisis and the Stethoscope; a Concise Practical Guide to the Physical Diagnosis of Consumption. By Richard Payne Cotton, M.D., Assistant Physician to the Hospital for Consumption and Diseases of the Chest. 2s. 6d.
5. On the Operation for Cataract with the Fine Needle, through the Cornea. 1s. 6d.
6. The Teeth and their Preservation. By Charles Vasey, Dentist. 1s.
7. The English Translation of the Pharmacopœia of the Royal College of Physicians of London, for 1851. Translated by a Physician. 2s. 6d.
8. A Defence of Revealed Religion, comprising a Vindication of the Miracles of the Old and New Testament from the Attacks of Rationalists and Infidels. By Joseph Brown, M.D. 7s. 6d.
9. On Syphilitic Eruptions; with especial Reference to the Use of Mercury. Illustrated by Cases. By Thomas Hunt, M.A.C.S. 1s.
10. On Diseases of the Genito-Urinary Organs. By Henry James Johnson, F.R.C.S.E., late Senior Assistant Surgeon to St. George's Hospital. 10s. 6d.
11. Letters to a Candid Inquirer on Animal Magnetism. Description and Analysis of the Phenomena; details of Facts and Cases. By William Gregory, M.D., F.R.S.E., Professor of Chemistry in the University of Edinburgh. 9s. 6d.
12. Popular Medical Errors. By James Bower Harrison, M.A.C.S.L., &c. 3s. 6d.
13. On Diseases of the Rectum. By T. B. Curling, F.R.S., Surgeon to the London Hospital, and Lecturer on Surgery to that Institution. 5s.
14. On the Preservation of the Health of Women at the Critical Periods of Life. By E. J. Tilt, M.D. 4s. 6d.
15. Miss Martineau and her Master. By J. Stephenson Bushnan, M.D. 3s.
16. Lectures on the Principles and Practice of Surgery. By Bransby B. Cooper, F.R.S., Senior Surgeon to Guy's Hospital.
17. On the Nature and Treatment of Softening of the Brain. By Richard Rowland, M.D., Assistant-Physician and Lecturer on Medicine at the Charing-cross Hospital. 5s.
18. Dr. Walshe on Diseases of the Heart and Lungs; their Symptoms and Treatment. 12s.
19. Our Relations with Homœopathy. By John Rose Cormack, M.D., F.R.S.E. 6d.
20. On the Pathological Anatomy of Bronchitis and the Diseases of the Lung, connected with Bronchial Obstruction. By W. T. Gairdner, M.D., F.R.C.P.E. 2s. 6d.
21. Observations on the Treatment of Cleft Palate by Mechanical Means. By John Mapleson, Dentist and Cupper to the Queen. 1s.
22. On the Physical Diagnosis of the Diseases of the Lungs and Heart. By Herbert Davies, M.D., Senior Physician to the Royal Infirmary for Diseases of the Chest. 7s.
23. The Spine, its Curvatures, and other Diseases; their Symptoms, Treatment, and Cure; to which are added Remarks upon Paralysis, with numerous Cases in illustration. By Charles Verrall, M.A.C.S. 5s.
24. The Anatomy and Diseases of the Prostate Gland. By John Adams, Fellow of the Royal College of Surgeons of England; Surgeon to the London Hospital, and President of the Hunterian Society. 5s.
25. The Human Body, and its Connection with Man. Illustrated by the Principal Organs. By James John Garth Wilkinson, Member of the Royal College of Surgeons of England. 14s.
26. Obstetric Medicine and Surgery. By F. H. Ramsbotham, M.D. 22s.
27. Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Vol. XXXIV. (Second Series, Vol. XVI.) 18s.
28. Quekett.—Treatise on the Microscope. Second Edition, much improved. 22s.

## INDEX TO NO. XIV.

Digitized by Google

|   | PAGE     |
|---|----------|
| Cæsarian operation, remarks on . . . . .  | 154      |
| Calcia, os, case of removal of . . . . .  | 127      |
| Calculus, injections into the bladder for . . . . .                             | 242      |
| Cancer, epithelial . . . . .  | 92       |
| CANE, Mr., case of tracheotomy in epilepsy . . . . .                            | 21       |
| Cardiac disease, complications of . . . . .                                     | 52       |
| Dr. WALSH on . . . . .  | 209      |
| CARGILL, Dr. JOHN, on the treatment of rheumatism . . . . .                     | 196      |
| Catamenia, retention of, death . . . . .  | 149      |
| Cauterization in diseases of the larynx . . . . .                               | 206      |
| Cerebral disease, in connection with disease of the internal ear . . . . .      | 17       |
| in scarlatina, treatment of . . . . .   | 22       |
| softening, Dr. ROWLAND on . . . . .   | 201      |
| Cervix uteri, laceration of . . . . .   | 152      |
| CHARLTON, Dr., on obstruction of the bowels . . . . .                           | 68       |
| CHEVERS, Dr., on cyanosis . . . . .   | 51       |
| on diseases of the heart . . . . .  | 210      |
| of the pulmonary artery . . . . .   | 211      |
| Chloroform, use of in tetanus . . . . .   | 24       |
| Chordee, treatment of . . . . .   | 131      |
| CHURCHILL, Dr., on ovarian irritation . . . . .                                 | 143      |
| CLARK, Mr., on fatty discharges from the bowels . . . . .                       | 65       |
| Clavicle, dislocation of the sternal end of . . . . .                           | 123      |
| fractured, new apparatus for . . . . .  | 133      |
| Cock, Mr., on the communicability of "grease" to man . . . . .                  | 194      |
| Cod-liver oil, in nursing sore mouth . . . . .                                  | 163      |
| Colchicum, in the cerebral complications of scarlatina . . . . .                | 22       |
| Coma, infantile . . . . .   | 169      |
| epileptic . . . . .   | 18       |
| COOPER, Mr. BRANSBY, Lecture on Surgery, notice of . . . . .                    | 220      |
| Mr. WHITE, on injury to the eyes from shot, &c. . . . .                         | 225      |
| COOTE, Mr. HOLMES, on the position of the limb in hip-joint disease . . . . .   | 89       |
| Corpus luteum, relation of, to pregnancy . . . . .                              | 260      |
| COTTON, Dr. PAYNE, on the form of the chest in phthisis . . . . .               | 24       |
| COULSON, Mr., on hysterical affections of the hip-joint . . . . .               | 89, 228  |
| on diseases of the bursæ mucosæ . . . . .                                       | 235      |
| CRAIG, Mr., on variations in electrical tension as a cause of disease . . . . . | 180      |
| Cranium, compression of, in labour . . . . .                                    | 281      |
| Cretinism, report on . . . . .  | 199      |
| Croup, treatment of, by cauterization of the larynx . . . . .                   | 170      |
| CURLING, Mr., on relief of impassable stricture of the rectum . . . . .         | 132      |
| Cyanosis, diagnosis of . . . . .  | 51       |
| DANYAU, M., on infantile paralysis . . . . .                                    | 281      |
| DEBROU, M., on imperforate vagina . . . . .                                     | 257      |
| Delivery, on bandaging the abdomen after . . . . .                              | 150, 268 |
| DENDY, Mr. WALTER, on smallpox . . . . .  | 191      |
| Diabetes, pathology of . . . . .  | 215      |
| Diagnosis of general paralysis . . . . .  | 21       |
| between infantile remittent fever and hydrocephalus . . . . .                   | 172      |
| DUNDAS, Dr. R., on large doses of quinine in fever . . . . .                    | 189      |
| Dura mater, periosteal disease of . . . . .                                     | 204      |
| Ear, on the pathology of some affections of . . . . .                           | 17       |
| on gouty inflammation of . . . . .  | 102      |
| Eczema impetiginodes, treatment of . . . . .                                    | 83       |
| EDDOMES, Mr., local treatment of traumatic tetanus . . . . .                    | 23       |
| Electrical variation, a cause of disease . . . . .                              | 180      |
| ELY, Dr. GEORGE, on ergot of rye . . . . .                                      | 268      |
| Epidemic pestilences, notice of a work on, by Dr. BASCOMB . . . . .             | 188      |
| Epilepsy, treatment of, by tracheotomy . . . . .                                | 21       |

|  | PAGE     |
|--|----------|
| Erectile tumours, treatment of . . . . .                                   | 224      |
| Ergot of rye, uses of, in labour . . . . .                                 | 268      |
| Erysipelas, treatment of, by muriated tincture of iron . . . . .           | 84       |
| EVANS, Dr., on cod-liver oil in nursing sore mouth . . . . .               | 163      |
| Eyes, injuries to, from shot, &c. . . . .                                  | 225      |
| FEARNSIDE, Dr., on putrefactive disease of lungs . . . . .                 | 45       |
| Femur, on excision of pelvic extremity of . . . . .                        | 121      |
| case of dislocation of, backwards . . . . .                                | 140      |
| Fever, hay, nature and treatment of . . . . .                              | 42       |
| treatment of infantile remittent . . . . .                                 | 173      |
| Fevers, diagnosis of . . . . .   | 188      |
| large doses of quinine in . . . . .  | 189      |
| intermittent, state of the spleen in . . . . .                             | ib.      |
| peresquintrate of iron in . . . . .  | 190      |
| Fistula, on the operation for vesico-vaginal . . . . .                     | 162      |
| Fracture of the neck of the femur, bony union . . . . .                    | 227      |
| treatment of unconsolidated, by acupuncture . . . . .                      | 125, 227 |
| by Dieffenbach's plan . . . . .  | 129      |
| statistics of . . . . .  | 227      |
| Fracture-bed, the sling . . . . .  | 135      |
| GAIRDNER, Dr. W. T., on the pathological anatomy of bronchitis . . . . .   | 207      |
| description of a pocket microscope invented by . . . . .                   | 182      |
| Dr. W., notice of a work by, on Gout . . . . .                             | 196      |
| Galvano-puncture in aneurism . . . . .                                     | 223      |
| GARVIN, Dr. I. P., on the treatment of internal hemorrhoids . . . . .      | 116      |
| GAY, Mr., on treatment of diseased joints by incisions . . . . .           | 230      |
| GOOLDEN, Dr., on periosteal disease of the dura mater . . . . .            | 204      |
| Gout, Dr., GAIRDNER on . . . . .   | 196      |
| "Grease," communicability of, to man . . . . .                             | 194      |
| GREENHOW, Mr., the sling fracture-bed . . . . .                            | 135      |
| GUNTHER, Dr., on dislocations of the humerus . . . . .                     | 228      |
| GUTHRIE, Mr., on wounds and injuries of the abdomen . . . . .              | 113      |
| Hæmaturia . . . . .  | 69       |
| Hemorrhoids, treatment of . . . . .  | 116      |
| HAMILTON, Mr., on pus in the urine . . . . .                               | 91       |
| HANNON, Mr., on spontaneous luxation of the humerus . . . . .              | 91       |
| HANNOVER, Dr., on menstruation . . . . .                                   | 259      |
| HARVEY, Dr. ALEXANDER, on the corpus luteum . . . . .                      | 260      |
| Mr., on gouty inflammation of the ear . . . . .                            | 102      |
| HAYWARD, Dr., on the operation for vesico-vaginal fistula . . . . .        | 162      |
| Heart, diseases of, Dr. WALSH on . . . . .                                 | 209      |
| Dr. CHEVERS on . . . . .   | 210      |
| HENNER, Mr., on lesion of the kidney . . . . .                             | 103      |
| Hernia, treatment of, after operation . . . . .                            | 112      |
| case of obturator successfully relieved by operation . . . . .             | 141      |
| Hip-joint, on hysterical affections of . . . . .                           | 89, 228  |
| on position of limb in diseases of . . . . .                               | 89       |
| best mode of performing amputation at . . . . .                            | 120      |
| HODGSON, Mr., on fracture of the cervix femoris, with bony union . . . . . | 227      |
| Hooping-cough, comparative value of remedies in . . . . .                  | 170      |
| HORNER, Dr., case of dislocation of the femur backwards . . . . .          | 140      |
| HOSKINS, Mr. ELLIOT, on injections into the bladder for calculus . . . . . | 242      |
| Humerus, dislocation of . . . . .  | 228      |
| HUMPHREY, Mr., on epithelial cancer . . . . .                              | 91       |
| case of aneurism treated by pressure . . . . .                             | 223      |
| Hyperinosis . . . . .  | 195      |
| Ichthyosis, treatment of, by cod-liver oil . . . . .                       | 84       |
| Insanity, puerperal, treatment of . . . . .                                | 167      |

|   | PAGE |
|---|------|
| Intestines, internal strangulation of . . . . .   | 116  |
| obstruction of . . . . .  | 213  |
| Irritation, ovarian, nature of . . . . .  | 143  |
| JENNER, Dr., on treatment of sarcina ventriculi . . . . .   | 62   |
| Joints, diseased, treatment of, by free incisions . . . . .   | 230  |
| JONES, Dr. BENCK, on variations of the phosphates in diseases of the nervous system . . . . .       | 204  |
| KERR, Mr. W., on the persesquinitrate of iron in ague . . . . .                                     | 190  |
| KESTEVEN, Mr., on bandaging the abdomen after delivery . . . . .                                    | 150  |
| on cerebral tumours . . . . .   | 203  |
| Kidney, on lesion of . . . . .  | 103  |
| KIRK, Mr., on angina pectoris . . . . .   | 49   |
| KIWISCH, Dr., case of extra-uterine pregnancy . . . . .   | 266  |
| Knock-knee, on the nature and causes of . . . . .   | 96   |
| KNOX, Dr., on excision of the pelvic extremity of the femur . . . . .                               | 121  |
| LAUGIER, Dr., treatment of fungosities of the joints . . . . .                                      | 232  |
| LEE, Mr. W., on disease and mortality . . . . .   | 179  |
| on a new apparatus for fractured clavicle . . . . .   | 133  |
| LEES, Dr. CATHECART, on chronic vomiting as symptomatic of disease of kidney . . . . .              | 79   |
| LENOIR, M., treatment of unconsolidated fracture of the thigh . . . . .                             | 228  |
| LENTE, Dr., on statistics of fractures . . . . .  | 228  |
| Lepra, on pathology of . . . . .  | 81   |
| treatment of, by Galium Aparine . . . . .   | 82   |
| Lungs, on putrefactive disease of . . . . .   | 45   |
| Lupus, treatment of in Parisian hospitals . . . . .   | 84   |
| LYONS, Dr., on the microscope . . . . .   | 181  |
| MACKENZIE, Dr., on hay fever . . . . .  | 42   |
| on irritable uterus . . . . .   | 145  |
| on puerperal insanity . . . . .   | 157  |
| MARCHAND, Dr., retention of the catamenia . . . . .   | 149  |
| MARSH, Sir HENRY, on the regurgitating disease . . . . .  | 63   |
| MARTIN, M., on relaxation of the symphysis of the pelvis . . . . .                                  | 162  |
| Menstruation, pathology of . . . . .  | 259  |
| MERCIER, M., a new plan of reducing paraphimosis . . . . .  | 131  |
| MERREI, Dr., memoranda on auscultation of infants . . . . .   | 165  |
| varieties of alvine discharge in children . . . . .   | 166  |
| Microscope, use of in surgical diagnosis . . . . .  | 88   |
| clinical lecture on the uses of . . . . .   | 181  |
| MILTON, Mr., treatment of dislocation of the sternal end of clavicle . . . . .                      | 123  |
| of chordee . . . . .  | 131  |
| MORLEY, Mr., case of extra-uterine pregnancy . . . . .  | 267  |
| MORTON, Dr., on the spring-truss in varicocele . . . . .  | 225  |
| MOTT, Dr. VALENTINE, operations by, for removal of cervical glandular tumours . . . . .             | 226  |
| MULLAR, Dr., description of a new splint . . . . .  | 132  |
| MURPHY, Dr., on the duration of pregnancy . . . . .   | 265  |
| Muscles, on the permanent involuntary contraction of . . . . .                                      | 107  |
| NELATON, M., on a form of sanguineous pelvic tumour . . . . .                                       | 148  |
| Nervous system, variation of the urinary salts in disease of . . . . .                              | 204  |
| NUNN, Mr., on a peculiar condition of the integuments connected with anasarca of the legs . . . . . | 86   |
| OBRE, Mr., case of obturator hernia . . . . .   | 141  |
| Œdemata glottidis, tracheotomy in . . . . .   | 207  |
| O'GRADY, Dr., a new forceps for the removal of uterine polypi . . . . .                             | 164  |
| ORMEROD, Dr., on complications of cardiac disease . . . . .   | 52   |
| OSBORNE, Dr., on treatment of albuminuria . . . . .   | 80   |
| Ovarian tumours, removal of . . . . .   | 260  |

|  | PAGE     |
|--|----------|
| PAGE, Dr., case of death from anæmia . . . . .                                       | 195      |
| PANCOAST, Dr., treatment of aphonia . . . . .  | 47       |
| Pancreas, on fatty discharge from the bowels in connection with disease of . . . . . | 65       |
| Paralysis, general, diagnosis of varieties . . . . .                                 | 21       |
| Paralysis of infants . . . . .   | 281      |
| Paraphimosis, a new plan of reducing . . . . .                                       | 131      |
| PAYESI, Dr., comparative value of remedies in whooping-cough . . . . .               | 170      |
| PEACOCK, Dr., on acute capillary bronchitis . . . . .                                | 38       |
| PEASLEE, Dr., case of double ovariectomy . . . . .                                   | 260      |
| Pelvis, on relaxation of the symphyses of . . . . .                                  | 162      |
| Perineum, on fissure of in natural labour . . . . .                                  | 152      |
| Perineal section . . . . .   | 108, 242 |
| Phthisis, on the form and movement of the chest in . . . . .                         | 24       |
| remarks on the pathology of . . . . .  | 27       |
| on the early signs of . . . . .  | 31       |
| use of cod-liver oil in . . . . .  | 37, 209  |
| Dr. WALSH on . . . . .   | 207      |
| state of the gums in . . . . .   | 208      |
| Placenta, fatty degeneration of . . . . .  | 279      |
| Pneumonia, rules for bleeding in . . . . .   | 47       |
| Pneumothorax, paracentesis in . . . . .  | 209      |
| Pregnancy and phthisis, relations of . . . . .                                       | 264      |
| duration of . . . . .  | 265      |
| anomalous case of . . . . .  | 266      |
| extra-uterine . . . . .  | ib.      |
| Prepuce, varicose lymphatics of . . . . .  | 237      |
| Prostate gland, Mr. ADAMS on the . . . . .   | 242      |
| PRUNAIRE, M., on the treatment of varicocele . . . . .                               | 224      |
| Puerperal fever, contagion of . . . . .  | 270      |
| Pulmonary artery, diseases of . . . . .  | 211      |
| Pus, on the presence of, in urine . . . . .  | 91       |
| QUAIN, Mr., on treatment of hernia after operation . . . . .                         | 112      |
| RADFORD, Dr., remarks on Cæsarian section . . . . .                                  | 154      |
| RAMSBOTHAM, Dr., notice of a treatise by, on midwifery . . . . .                     | 255      |
| on anæsthesia in midwifery . . . . .   | ib.      |
| on the corpus luteum . . . . .   | 260      |
| on the vectis . . . . .  | 269      |
| RAU, M., on the round ligaments of the uterus . . . . .                              | 148      |
| Rectum, on relief of impassable stricture of . . . . .                               | 132      |
| REDFERN, Dr., on the diseases of articular cartilages . . . . .                      | 232      |
| REES, Dr. OWEN, on hæmaturia . . . . .   | 69       |
| on alkaline urine . . . . .  | 73       |
| Regurgitating disease, on the . . . . .  | 63       |
| Rheumatism, results of treatment in . . . . .  | 196      |
| ROBINSON, Mr. R., on the treatment of internal strangulation of the bowels . . . . . | 116      |
| on the symptoms and causes of internal strangulation . . . . .                       | 213      |
| of the intestines . . . . .  | 209      |
| ROE, Dr. HAMILTON, on pneumothorax . . . . .   | 209      |
| ROUX, M., extirpation of a voluminous bronchocele . . . . .                          | 141      |
| ROWLAND, Dr., on cerebral softening . . . . .  | 201      |
| Sarcinæ ventriculi, treatment of . . . . .   | 62       |
| Scabies, economic formula for the treatment of . . . . .                             | 86       |
| Scarlatina, use of colchicum in cerebral complications of . . . . .                  | 22       |
| inunction in . . . . .   | 190      |
| belladonna as a prophylactic in . . . . .  | ib.      |
| Sciatica, treatment of obstinate . . . . .   | 24       |
| SIMPSON, Prof., on fissure of the perineum in natural labour . . . . .               | 152      |
| on the contagion of puerperal fever . . . . .  | 272      |
| SIMPSON, Dr., on laceration of the cervix uteri . . . . .                            | 152      |

